NOTE: For static address allocation, a static PDN GW is selected by either having the APN configured to map to a given PDN GW, or the PDN GW identity provided by the HSS/AAA indicates the static PDN GW.

### 4.7.4 IP Address Allocation using S2c

Prior the use of S2c an IP address which will be used as a care-of address shall be allocated to the UE.

When a Trusted Non-3GPP Access Network is used one or more IP addresses are allocated to the UE by the Trusted Non-3GPP Access Network. One of these IP addresses is used by the UE as care-of address within DSMIPv6. The allocation of these IP addresses is out of the scope this specification.

When an Untrusted Non-3GPP Access Network is used one or more IP addresses are allocated to the UE by the Untrusted Non-3GPP Access Network. The allocation of these IP addresses is out of the scope of 3GPP. One of these IP addresses is used by the UE as the IP address towards the ePDG when IPSec SAs are established. During the IPSec SA establishment the ePDG allocates and delivers an IP address to the UE, which IP address is used by the UE as care-of address within DSMIPv6. This IP address is allocated by the ePDG either by using an internal address pool or using an external server, such as DHCP. The allocation of this IP address is implementation specific.

When a UE is connecting to a PDN via S2c, address allocation for that PDN takes place as follows.

During IKEv2 exchange for bootstrapping the DSMIPv6 security association (see clause 6.3) the following parameters can be negotiated between the UE and the PDN GW/HA:

- The IPv6 prefix to which the IPv6 Home Address belongs, also called the "Home Network Prefix" and the PDN associated with the IPv6 prefix (PDN is indicated with APN);
- The UE's IPv6 Home Address:
- The DNS server address for that PDN.

The UE may request additional configuration parameters by running stateless DHCP as defined in RFC 4039 [29] and RFC 3736 [30] over the DSMIPv6 tunnel.

The UE may also request an IPv4 home address using DSMIPv6 signalling, as defined in RFC 5555 [10].

The PDN GW/HA may receive a static IP address (i.e. a static IPv4 address and/or a static IPv6 prefix) from HSS/AAA during the authentication and authorization procedure. Then the PDN GW/HA shall assign the static IP address to the UE, as indicated above.

NOTE: The UE selects a PDN GW as specified in clause 4.5.2. In case the PDN GW selected by the UE is different from the static PDN GW stored in the HSS, the PDN GW reallocation procedure (see clause 6.10) shall be performed.

### 4.7.5 IPv6 Prefix Delegation using S2c

Optionally a single network prefix shorter than a /64 prefix may be assigned to a PDN connection (TS 23.401 [4]). When S2c is used to access a PDN, the UE acting as a Mobile Router may request delegation of one or more IPv6 prefix(es) via DHCPv6 Prefix Delegation signalling as described in RFC 6267 [56]. The UE does not need to explicitly register these additional prefixes using S2c signaling as implicit mode registration is used.

# 4.8 Network Discovery and Selection

## 4.8.0 General Principles

The following principles apply when the UE is registered in the Home PLMN or in a PLMN which is equivalent to the home PLMN and when both 3GPP and non-3GPP accesses are available or when multiple non-3GPP accesses are available:

- The EPS network may provide the UE with assistance data/policies about available accesses located in the Home PLMN or in a PLMN equivalent to the Home PLMN, to allow the UE to scan for accesses and select an access.

- If the UE is capable of routing different IP flows to the same PDN connection through different access networks (see TS 23.261 [55]), the EPS network shall allow the operator to influence the access where a specific IP flow shall be routed.
- If the UE is capable of routing different simultaneously active PDN connections through different access networks, the EPS network shall allow the operator to influence the access where a specific PDN connection shall be routed.
- Assistance data/policies are provided only after establishing secure communication, as specified in TS 33.402 [45].
- The assistance data/policies provided to UE may depend on the UE's subscription data.
- The EPS network allows the operator to influence the access that the UE shall handover to (when in active mode) or re-select (when in idle mode).
- Multi-access network discovery and selection works for both single-radio and multiple- radio terminals. For the case of multiple-radio terminals, multi-access network discovery and selection works without requiring all radios supported by the UE to be switched on.
- No architectural impact is foreseen for network selection upon initial network attachment.
- The UE may provide information to the network for the retrieval of the assistance data/policies.

The following principles apply when the UE is registered in a Visited PLMN (VPLMN) and when both 3GPP and non-3GPP accesses are available or when multiple non-3GPP accesses are available:

- The VPLMN shall be able to provide Access Network Discovery information only for 3GPP and non-3GPP access networks that provide connectivity to the VPLMN or to a PLMN equivalent to the VPLMN, or to both.
- The VPLMN shall be able to provide to a roaming UE Inter-System Mobility Policies and/or Inter System Routing Policies (see clause 4.8.2.1). Such policies shall be valid only in the VLPMN or in a PLMN equivalent to the VPLMN, as per roaming agreements.
- The Home PLMN (HPLMN) shall be able to provide to a roaming UE Access Network Discovery information for 3GPP and non-3GPP access networks that provide connectivity to the HPLMN or to a PLMN equivalent to the HPLMN, or to both.
- The HPLMN shall be able to provide to a roaming UE Inter-System Mobility Policies and/or Inter System Routing Policies.
- When the UE receives Inter System Routing Policies from the HPLMN and the VPLMN, it shall resolve potential conflicts according to the procedures specified in TS 24.302 [54].
- When the UE receives Inter System Mobility Policies from the HPLMN and the VPLMN, it shall resolve potential conflicts according to the procedures specified in TS 24.302 [54].

The multi-access network discovery and selection mechanism shall not interfere with the existing 3GPP PLMN selection mechanisms used for the 3GPP Access Technologies (specified in TS 23.122 [53]), with the existing 3GPP PLMN selection mechanisms used for I-WLAN access (specified in TS 23.234 [5]) and with the existing 3GPP2 network selection mechanisms. In particular, when PLMN selection is applicable, it is performed before any access network discovery and selection procedures based on ANDSF (see TS 24.302 [54]).

The ANDSF's policy and the UE implementation shall ensure that PLMN changes are not conducted more often than the time stored in the USIM (in EF<sub>HPPLMN</sub>, see TS 31.102 [46]) for the "periodic network selection attempts" specified in TS 22.011 [47].

NOTE: A change between the HPLMN and another PLMN equivalent to the HPLMN may be triggered by the ANDSF, but is not considered a PLMN reselection.

## 4.8.1 Architecture for Access Network Discovery Support Functions

The following architecture may be used for access network discovery and selection. The support and the use of these functions and interfaces are optional.



Figure 4.8.1.1-1: Non-Roaming Architecture for Access Network Discovery Support Functions

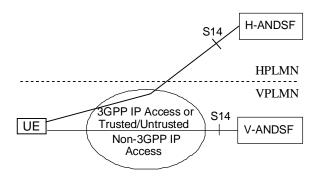


Figure 4.8.1.1-2: Roaming Architecture for Access Network Discovery Support Functions

The architecture is based on a new network element called Access Network Discovery and Selection Function (ANDSF). An ANDSF element located in the home PLMN of a UE is referred to as the Home-ANDSF (H-ANDSF) for this UE, whereas an ANDSF element located in the visited PLMN of a UE is referred to as the Visited-ANDSF (V-ANDSF) for this UE. Unless otherwise specified, the term ANDSF is used to refer to both an H-ANDSF and a V-ANDSF. Details about the ANDSF functionality and its interaction with the UE are provided in clause 4.8.2.1.

The ANDSF is an optional element in the network architecture and thus a UE may or may not be able to interact with an H-ANDSF and/or with a V-ANDSF.

The UE-ANDSF interaction can take place via non-seamless WLAN offload (see clause 4.1.5) or via any 3GPP or non-3GPP access technology that can be used by the UE to access EPC.

NOTE: ANDSF push interactions might not always be possible via non-seamless WLAN offload.

### 4.8.2 Network Elements

#### 4.8.2.1 Access Network Discovery and Selection Function (ANDSF)

The ANDSF contains data management and control functionality necessary to provide network discovery and selection assistance data as per operators' policy. The ANDSF shall respond to UE requests for access network discovery information (pull mode operation) and may be able to initiate data transfer to the UE (push mode operation), based on network triggers or as a result of previous communication with the UE.

NOTE 1: In this Release, the OMA DM Push mechanism may not work in all possible scenarios and the ANDSF may not always be able to initiate a session to the UE.

NOTE 2: The usage of ANDSF capabilities is intended for scenarios where access-network level solutions are not sufficient for the UE to perform Network Discovery and Selection of non-3GPP technologies according to operator policies.

The ANDSF shall comply with regulatory requirements pertaining to the privacy and confidentiality of user location information.

The ANDSF shall be able to provide the following information:

- 1) Inter-system mobility policy:
  - The inter-system mobility policy is a set of operator-defined rules and preferences that affect the inter-system mobility decisions taken by the UE. The UE uses the inter-system mobility policy when it can route IP traffic only over a single radio access interface at a given time (e.g. is not IFOM capable or its IFOM capability is disabled) in order to:
    - (i) decide when inter-system mobility is allowed or restricted; and
    - (ii) to select the most preferable access technology type or access network that should be used to access EPC.
- NOTE 3: The inter-system mobility policy does not indicate the most preferable access network or access technology type that should be used to access CS services.

For example, an inter-system mobility policy may indicate that inter-system handover from E-UTRAN access to WLAN access is not allowed. It may also indicate e.g. that WiMAX access is more preferable to WLAN access.

- The inter-system mobility policy may be provisioned in the UE and may be updated by the ANDSF based on network triggers or after receiving a UE request for network discovery and selection information.
- The inter-system mobility policy identifies which access technology type or which specific access network is mostly preferable for EPC access. It shall be able to indicate:
  - If a specific access technology type is preferable to another (e.g. WiMAX is preferable to WLAN).
  - If a specific access network identifier is preferable to another (e.g. WLAN SSID-1 is preferable to WLAN SSID-2).
- The inter-system mobility policy identifies also when inter-system mobility is allowed or restricted. It shall be able to indicate:
  - If inter-system mobility is restricted from one access technology type to another (e.g. handover from WiMAX to WLAN is restricted).
  - If inter-system mobility is restricted when certain conditions are met.
  - Validity conditions, i.e. conditions indicating when a policy is valid (such conditions may include e.g. a time duration, a location area, etc.). The validity conditions may also indicate when the UE shall request for new policies.
- The inter-system mobility policy indicates whether the operator-preferred list of access networks or access technology types for EPC access, shall take precedence over corresponding user-preferred list, when automatic access network selection is used.
- 2) Access network discovery information:
  - Upon UE request, the ANDSF may provide a list of access networks available in the vicinity of the UE for all the access technology types requested by the UE (if any requested).
  - The ANDSF provides information for access networks that are available to the UE including:
    - the access technology type (e.g. WLAN, WiMAX).
    - the radio access network identifier (e.g. the SSID of a WLAN).
  - other technology specific information, e.g. one or more carrier frequencies.
  - validity conditions, i.e. conditions indicating when the provided access network discovery information is valid (such conditions may include e.g. a location).
  - The UE may retain and use the access network discovery information provided by the ANDSF until new/updated information is retrieved.
- 3) Inter-System Routing Policy:

- The ANDSF may provide a list of Inter-System Routing Policies to the UE independently of the UE capability that are capable of routing IP traffic simultaneously over multiple radio access interfaces. The UE uses the inter-system routing policies when it can route IP traffic simultaneously over multiple radio access interfaces (e.g. it is an IFOM capable UE with the IFOM capability enabled or a MAPCON capable UE with the MAPCON capability enabled) in order to meet the operator routing / offload preferences by:
  - (i) deciding when an access technology type / access network is restricted for a specific IP traffic flow and/or a specific APN; and
  - (ii) selecting the most preferable access technologies / access networks and/or APNs which should be used by the UE when available to route IP traffic that matches specific criteria (e.g. all traffic to a specific APN, or all traffic belonging to a specific IP flow, or all traffic of a specific application, etc).
- The inter-system routing policy may be provisioned in the UE and may be updated by the ANDSF based on network triggers or after receiving a UE request for network discovery and selection information.
- The inter-system routing policy includes the following information:
  - Validity conditions, i.e. conditions indicating when the provided policy is valid.
  - For IFOM: one or more Filter Rules, each one identifying a prioritised list of access technologies / access networks which should be used by the UE when available to route traffic that matches specific IP traffic filters on a specific APN or on any APN. A filter rule also identifies which radio accesses are restricted for traffic that matches specific IP traffic filters on aspecific APN (e.g. WLAN is not allowed for RTP/RTCP traffic flows on APN-x) or on any APN;
  - For MAPCON: one or more Filter Rules, each one identifying a prioritised list of access technologies / access networks which should be used by the UE when available to route PDN connections to specific APNs. A filter rule also identifies which radio accesses are restricted for PDN connections to specific APNs (e.g. WLAN is not allowed for PDN connection to APN-x);
  - For non-seamless WLAN offload specified in clause 4.1.5: one or more Filter Rules, each one identifying which traffic shall or shall not be non-seamlessly offloaded to a WLAN when available. It shall be possible to restrict certain traffic from using non-seamless WLAN offload only in specific WLAN access networks or in all WLAN access networks. Similarly, it shall be possible to permit certain traffic to use non-seamless WLAN offload only in specific WLAN access networks or in all WLAN access networks.
  - For IFOM and for non-seamless WLAN offload, each Filter Rule may identify traffic based on destination/source address, transport protocol, destination/source port numbers, DSCP or Traffic Class, destination domain name and application identity.
  - For MAPCON each Filter Rule identifies traffic based on APN.
  - The Filter Rules for IFOM, MAPCON and non-seamless WLAN offload are associated with a rule priority. If more than one valid Filter Rules for IFOM, MAPCON and non-seamless WLAN offload match a specific IP traffic flow, the UE applies the Filter Rule with the highest rule priority.
- NOTE 4: The way how inter-system routing policies are realized in the OMA DM management object(s) is outside the scope of this specification and is left for Stage 3.
- 4) Inter-APN Routing Policy:
  - The Inter-APN Routing Policies (IARP) can be provisioned by the ANDSF. An Inter-APN routing capable UE selects an existing IP interface, which is associated with a specific APN, to route IP flows based on the received / provisioned inter-APN routing policies and user preferences.
  - Every IP interface that can be selected with IARP is associated with a different APN.
- NOTE 5: IP interfaces not associated with an APN are considered outside the scope of IARP. Such interfaces could include e.g. an IP interface to a tethering device connected to UE over USB, or an IP interface corresponding to an enterprise VPN connection over WLAN, etc. The scenario where multiple IP interfaces are associated with the same APN is also considered outside the scope of IARP.
  - The inter-APN routing policy includes the following information:
    - Validity conditions, i.e. conditions indicating when the provided policy is valid.

- One or more Filter Rules, each one identifying a prioritised list of APNs which shall be used by the UE to
  route IP flows that match specific IP filters (e.g. all flows to a specific TCP port or to a specific
  destination address, etc). The Filter Rules may also identify which APNs are restricted for IP flows that
  match specific IP filters.
- Each filter rule for Inter-APN routing is associated with a rule priority.

A Filter Rule can be applied only when it steers IP traffic to an existing (i.e. already established) PDN connection. When no APN in the Filter Rule is associated with an existing PDN connection, then the Filter Rule shall not be applied.

Subject to operator's configuration, the ANDSF may obtain the permanent UE identity, e.g. based on the security solution specified in TS 33.402 [45].

There are three types of information provided by the ANDSF, i.e. the inter-system mobility policy, the access network discovery information and the inter-system routing policy. The ANDSF may provide all types of information or only one of them.

The H-ANDSF selects the inter-system mobility policies, the access network discovery information and the inter-system routing policies to be delivered to the UE according to the operator requirements and the roaming agreements. If the permanent UE identity is known to the H-ANDSF, and subject to operator's configuration, the available subscription data (e.g. the list of access networks, or access technology types, the UE is authorized to use, etc.) may also be used by the H-ANDSF for selecting the inter-system mobility policies, the access network discovery information and the inter-system routing policies.

The V-ANDSF selects the inter-system mobility policies, the access network discovery information and the intersystem routing policies to be delivered to the UE according to the operator requirements and the roaming agreements.

If the UE has access network discovery information, inter-system mobility policies or inter-system routing policies valid for its present location, which indicate that there is an access network in its vicinity with higher priority than the currently selected access network(s), the UE should perform procedures for discovering and reselecting the higher priority access network, if this is allowed by user preferences.

NOTE 6: How frequently the UE performs the discovery and reselection procedure depends on the UE implementation.

A UE that is not capable of routing IP traffic simultaneously over multiple radio access interfaces (e.g. a non-IFOM or non-MAPCON capable UE, or a UE that has such a capability disabled, or a UE not capable of non-seamless WLAN offload) shall select the most preferable available access network for inter-system mobility based on the received / provisioned inter-system mobility policies and user preferences and shall disregard the inter-system routing policies it may have received from the ANDSF. When automatic access network selection is used, the UE shall not initiate a connection to the EPC using an access network indicated as restricted by inter-system mobility policies. When the UE selects a non-3GPP radio access as indicated by the preferences in the inter-system mobility policies, the UE may still use 3GPP access for CS services.

NOTE 7: The user may manually select the access technology type or access network that should be used by the UE; in such a case the inter-system mobility policies are not taken into account.

A UE that is capable of routing IP traffic simultaneously over multiple radio access interfaces (i.e. an IFOM or MAPCON capable UE, or a UE capable of non-seamless WLAN offload) may be pre-provisioned with or shall be able to receive from the ANDSF (if the UE supports communication with ANDSF) both inter-system mobility policies and inter-system routing policies. When the UE has the IFOM, the MAPCON and the non-seamless WLAN offload capabilities disabled, the UE shall select the most preferable available access network based on the received / provisioned inter-system mobility policies and user preferences. When the UE has the IFOM or MAPCON or non-seamless WLAN offload capability enabled, the UE shall select the most preferable available access networks based on the received / provisioned inter-system routing policies and user preferences. In addition, the UE shall route traffic that matches specific IP traffic filters according to the filter rules in the received / provisioned inter-system routing policies and according to the user preferences.

A UE not capable of routing IP traffic simultaneously over multiple radio access interfaces but supporting IARP evaluates the Inter-APN Routing Policies (if any) and determines if any of them match an outgoing IP flow. The highest priority IARP that matches an outgoing IP flow identifies the PDN connection (the one associated with the preferred APN in the policy) that should be used to route this IP flow.

A UE capable of routing IP traffic simultaneously over multiple radio access interfaces uses the Inter-System Routing Policies (ISRP) and uses also the Inter-APN Routing Policies (if any). The UE determines how to route an outgoing IP flow by evaluating both the Inter-System Routing Policies and the Inter-APN Routing Policies. A filter rule used for NSWO shall be able to have any relative priority with respect to the fulter rule used for inter-APN routing.

When roaming, it shall be possible for the UE to resolve potential conflicts between the policies provided by the H-ANDSF and the policies provided by the V-ANDSF. This applies to both the inter-system mobility policies and to the inter-system routing policies. The UE behaviour when receiving policies from H-ANDSF and V-ANDSF is specified in clause 4.8.0 and in TS 24.302 [54].

The ANDSF shall be able to limit the amount of information provided to the UE based e.g. on the UE's current location, UE capabilities, etc. The ANDSF shall be able to limit the load caused by the UE initiated requests towards the ANDSF.

The H-ANDSF in the subscriber's home operator network may interact with other databases such as the HSS user profile information residing in subscriber's home operator network. Details of such interaction with these databases are not described in this Release of the specifications.

Inter-system mobility policies, access network discovery information and inter-system routing policies may also be statically pre-configured by the operator on the UE. The inter-system mobility policies, access network discovery information and inter-system routing policies provided to the UE by the ANDSF take precedence on the inter-system mobility policies, access network discovery information and inter-system routing policies pre-configured on the UE.

NOTE 8: The ANDSF policies sent to a UE are not expected to suggest such access networks to which the user is not allowed to access.

#### 4.8.3 Reference Points

This reference point is between UE and H-ANDSF / V-ANDSF for direct queries via pull. It enables dynamic provision of information to the UE for access NW discovery and selection procedures related to non-3GPP and 3GPP accesses. This dynamic provision shall be supported with Pull (UE-initiated session) and with Push (ANDSF-initiated session), if feasible. Communication over S14 is secured as specified in TS 33.402 [45].

Protocol assumption:

S14 interface is realized above IP level.

### 4.8.4 ANDSF Discovery

In non-roaming scenario, the H-ANDSF is discovered through interaction with the Domain Name Service function or the DHCP Server function. The H-ANDSF address may also be provisioned to the UE.

In roaming scenario, the UE shall be possible to retrieve both the H-ANDSF and V-ANDSF addresses.

NOTE: The ANDSF may not be contactable in certain PDNs.

# 4.8.5 Inter-system Mobility Policies

Policies may be organized in a hierarchy, e.g. a priority order among multiple policies determines which policy is applied with the highest priority.

The inter system mobility policies delivered to UE, or pre-configured on the UE, may have different scopes:

- A generic inter-system mobility policy has an unrestricted scope.
- A UE activity level specific inter-system mobility policy applies to the UE depending on its activity level, e.g.. a
  certain policy may apply to the UE while it is "active", while another policy (or no policy) may apply to the UE
  while it is "idle".

The definition of "active" and "idle" activity levels are access-network specific. In general, a UE is considered to be "active" when it has active communication bearers with the network for transmitting / receiving user data. When the UE has no active communication bearers for user data transmission / reception, it is considered to be "idle". For the case of

E-UTRAN access, a UE is "active" when it is in ECM-CONNECTED state, while it is "idle" when it is in ECM-IDLE state.

## 4.9 Authentication and Security

#### 4.9.1 Access Authentication in non-3GPP Accesses

Non-3GPP access authentication defines the process that is used for Access Control i.e. to permit or deny a subscriber to attach to and use the resources of a non-3GPP IP access which is interworked with the EPC network. Non-3GPP access authentication signalling is executed between the UE and the 3GPP AAA server/HSS. The authentication signalling may pass through AAA proxies.

3GPP based access authentication is executed across a SWa/STa reference point as depicted in the EPS architecture diagram. Following principles shall apply in this case:

- Transport of authentication signalling shall be independent of the non-3GPP IP Access technology.
- The 3GPP based access authentication signalling shall be based on IETF protocols, for e.g., Extensible Authentication Protocol (EAP) as specified in RFC 3748 [11].

The details of the access authentication procedure are defined in TS 33.402 [45].

#### 4.9.2 Tunnel Authentication

Tunnel authentication refers to the procedure by which the UE and the ePDG perform mutual authentication during the IPsec tunnel establishment between the UE and the ePDG (SWu reference point).

Tunnel authentication is used only in case of Untrusted Non-3GPP Access and is executed across a SWm reference point as depicted in the EPS architecture diagram.

The details of the tunnel authentication procedure are defined in TS 33.402 [45].

# 4.10 QoS Concepts

#### 4.10.1 General

The QoS model that is applied in conjunction with PMIP-based reference points does not use bearer IDs in user plane packets. Instead it is based on packet filters and associated QoS parameters (QCI, ARP, MBR, GBR) provided to the access system through off-path signalling.

The PCRF signals the same packet filters and associated QoS parameters over Gxa, Gxb and Gxc as over Gx; in other words the granularity of the QoS information that is passed over Gxa, Gxb and Gxc is the same as over Gx.

#### 4.10.2 Void

### 4.10.3 The EPS Bearer with PMIP-based S5/S8 and E-UTRAN access

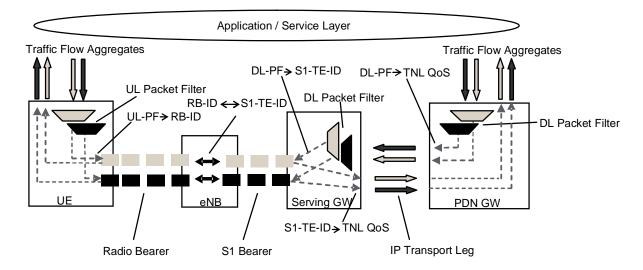


Figure 4.10.3-1: Two Unicast EPS bearers (PMIP-based S5/S8 and E-UTRAN access)

For PMIP-based S5/S8 and E-UTRAN access, an EPS bearer consists of the concatenation of one Radio Bearer and one S1 bearer. The PDN Connectivity Service between a UE and an external packet data network is supported through a concatenation of an EPS Bearer and IP connectivity between Serving GW and PDN GW. QoS control between a Serving GW and a PDN GW is provided at the Transport Network Layer (TNL).

The EPS bearer is realised by the following elements:

- In the UE, UL TFT maps a traffic flow aggregate to an EPS bearer in the uplink direction.
- In the Serving GW, the DL TFT maps a traffic flow aggregate to an EPS bearer in the downlink direction.
- A radio bearer transports the packets of an EPS bearer between a UE and an eNodeB. There is a one-to-one mapping between an EPS bearer and a radio bearer.
- An S1 bearer transports the packets of an EPS bearer between an eNodeB and a Serving GW. There is a one-to-one mapping between an EPS bearer and a S1 bearer.
- A per UE per PDN tunnel transports the packets of an EPS bearer between a Serving GW and a PDN GW. There is a many-to-one mapping between an EPS bearer and this per UE, per PDN tunnel.
- A UE stores a mapping between an uplink packet filter and a radio bearer to create the mapping between a traffic flow aggregate and a radio bearer in the uplink.
- An eNodeB stores a one-to-one mapping between a radio bearer and an S1 bearer to create the binding between a radio bearer and an S1 bearer in both the uplink and the downlink direction.
- A Serving GW stores a one-to-one mapping between a downlink packet filter and an S1 bearer to create the mapping between a traffic flow aggregate and an S1 bearer in the downlink.
- A PDN GW enforces APN-AMBR across all SDFs of the same APN that is associated with Non-GBR QCIs.

## 4.10.4 Application of PCC in the Evolved Packet System

EPS supports both static and dynamic PCC deployment options as specified in TS 23.401 [4].

NOTE 1: The local configuration of PCEF static policy and charging control functionality is not subject to standardization and is not based on subscription information.