DHCP Option for CLF/NASS
(Access Network Identifier)

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Content
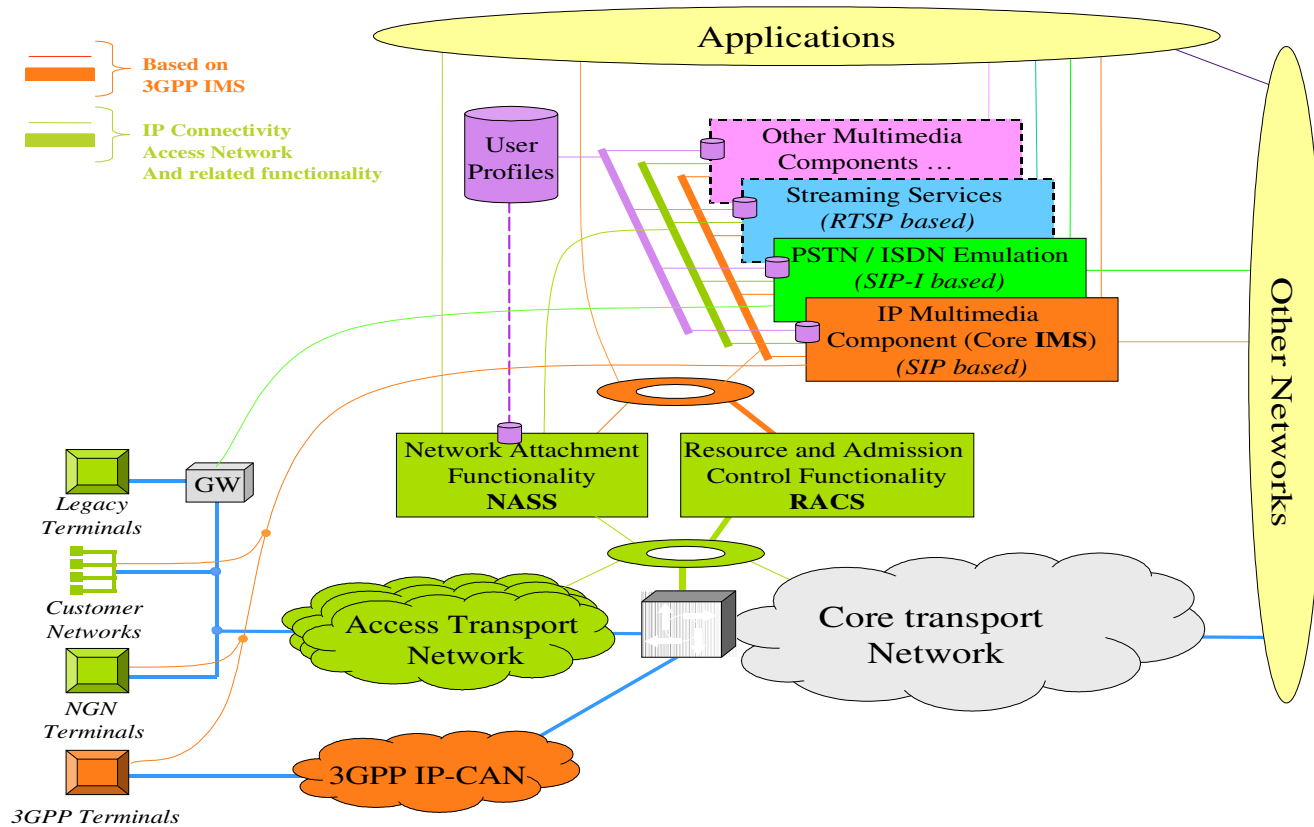
- Background

- DHCP Option for CLF/NASS

- Security and Other
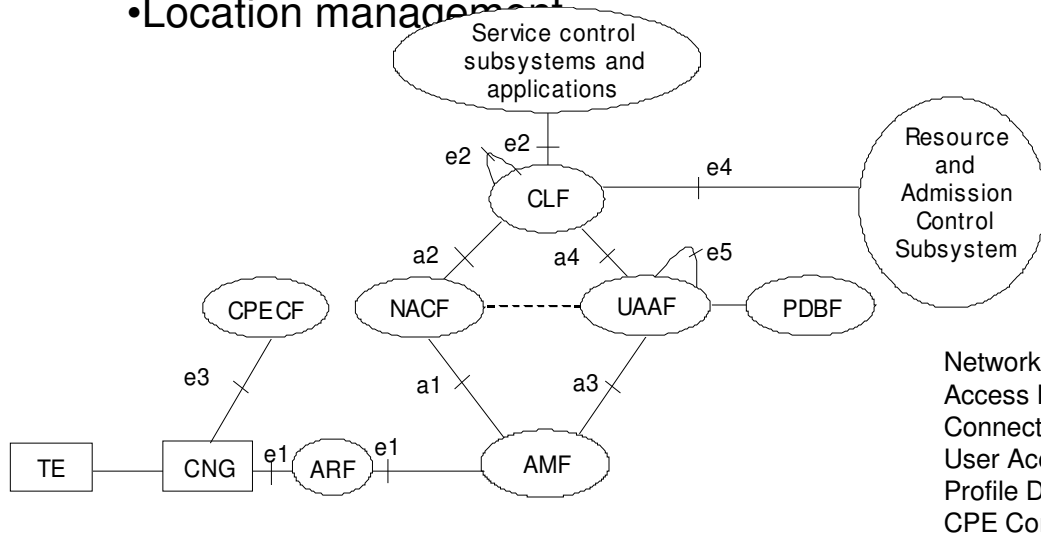
Background

TISPAN NGN Architecture

■ **Background**

NASS

The Network Attachment Subsystem provides the following functionalities:

• Dynamic provision of IP address and other user equipment configuration parameters (e.g. using DHCP).

• User authentication, prior or during the IP address allocation procedure.

• Authorisation of network access, based on user profile.

• Access network configuration, based on user profile.

• Location management

------ ETSI TISPAN WI20021

Service control subsystems and applications

Resource and Admission Control Subsystem

e2 e2

CLF

e4

a2 a4 e5

CPECF NACF UAAF PDBF

e3 a1 a3

TE CNG e1 ARF e1 AMF

Network Access Configuration Function (NACF)
Access Management Function (AMF)
Connectivity Session Location and Repository Function (CLF)
User Access Authorization Function (UAAF)
Profile Data Base Function (PDBF)
CPE Configuration Function (CPECF)

▪ **Background**
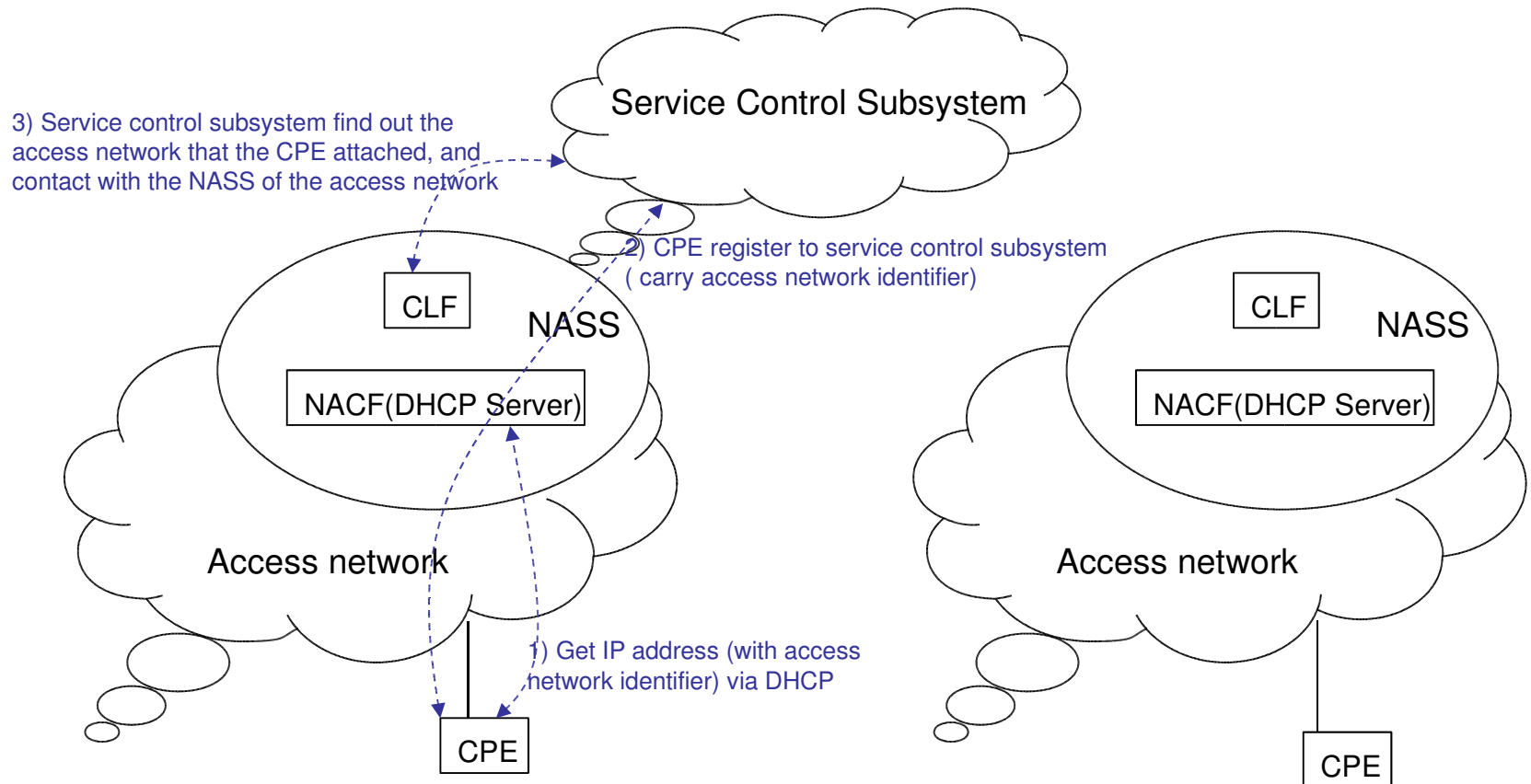
One Service Control Subsystem may provide services to several access networks. The Service Control Subsystem need to communicate with the NASS of access network. So:

The NACF should be able to provide to the CPE a access network identifier. This information uniquely identifies the access network to which the CPE is attached. With this information applications should be able to locate the CLF.

Note: The transport of the access identifier depends on extension in existing protocols (e.g. new DHCP option)

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----- ETSI TISPAN WI02021

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DHCP Option for CLF/NASS

3) Service control subsystem find out the access network that the CPE attached, and contact with the NASS of the access network

Service Control Subsystem

2) CPE register to service control subsystem (carry access network identifier)

CLF

NASS

NACF(DHCP Server)

Access network

CLF

NASS

NACF(DHCP Server)

Access network

1) Get IP address (with access network identifier) via DHCP

CPE

CPE

DHCP Option for CLF/NASS

We suggest to define the DHCP option to carry the access network identifier, such as CLF identifier or NASS identifier.

3 options:
- Domain name of CLF
- IP address of CLF
- Name of NASS

DHCP Option for CLF/NASS

•Domain name of CLF

```
Code   Len   enc           DNS name of CLF
+-----+-----+-----+-----+-----+-----+-----+---
| TBD |  n  |  0  | s1  | s2  | s3  | s4  | ...
+-----+-----+-----+-----+-----+-----+-----+---
```

•IP address of CLF

```
Code   Len   enc              Address
+-----+-----+-----+-----+-----+-----+-----+
| TBD |  5  |  1  | a1  | a2  | a3  | a4  |
+-----+-----+-----+-----+-----+-----+-----+
```

•Name of NASS

```
Code   Len   enc      name of NASS
+-----+-----+-----+-------------------+
| TBD |  n  |  2  | character string  |
+-----+-----+-----+-------------------+
```
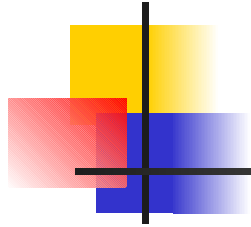
■ **Security and Other**

Security Considerations
--- The domain name or IP address of CLF will only be used by Service Control Subsystem, the CPE can not contact CLF directly.
--- If the access network operator do not want expose the domain name or IP address of CLF to the CPE, the Name of NASS option should be used. The Service Control Subsystem should find out the IP address of CLF according to the Name of NASS from its DB or list.

Other
--- Only DHCP v4 now, need expand to DHCP v6

THANK YOU !