Other IP Networks

Transport Processing Functions (Access and Core)

Network Attachment Subsystem

UE

TS 23.517 Release 8: NGN IMS
TS 83.063 Release 2: IMS-based IPTV

Transport functions:
- SIP/SDP ($G_m$, $ISC$, $y_2$)
- HTTP ($X_a$, $Ut$)
- RTP/RTCP ($D_i$, $D_j$, $D_s$, $l_z$)
- RTSP ($D_i$, $D_j$, $D_s$, $l_z$)
- Diameter
- DVBSTP or FLUTE
- IGMP/MLD ($D_i$, $D_j$)
- Not defined

Connections:
- $X_a$ from UE to SSF
- $G_m$ from UE to UPSF
- $X_c$ from UE to ECF/EFF
- $D_j$ from UE to ECF/EFF
- $X_d$ from UE to MDF
- $X_p$ from UE to MCF
- $G_m$ from UPSF to Core IMS
- $X_a$ from Core IMS to SSF
- $X_c$ from Core IMS to UPSF
- $X_p$ from Core IMS to MCF
- $Y_2$ from Core IMS to UPSF

**SDF:** Service Discovery Function
**SCF:** Service Control Function
**SSF:** Service Selection Function
**MCF:** Media Control Function
**MDF:** Media Delivery Function
SDF: Service Discovery Function

• Generates and/or provides the service attachment information
• Provides personalized service discovery
SSF: Service Selection Function

• Provides the service selection information, e.g. a list of available services that the UE can then browse and select

• Optionally provides service selection presentation information
Service Control Function

- Service authorization during session initiation and session modification, which includes checking IPTV users’ profiles in order to allow or deny access to the service
- Credit limit and credit control
- Select the relevant IPTV media functions
Procedures @ UE

1. IMS Registration
2. Service attachment
3. BC service
   1. Session initiation
   2. Session modification
   3. Session information
   4. Session termination
   5. Trick-play mode
4. CoD service
   1. Retrieving miss
   2. Session initiation
   3. Session modification
   4. Session termination
5. Service configuration
6. IPTV presence service
7. NPVR service
   1. NPVR capture request
   2. NPVR session
2. UE service attachment: push mode

1. REGISTER
2. 200 OK
3. Match the iFC
4. REGISTER
5. 200 OK
6. MESSAGE
7. MESSAGE
8. 200 OK
9. 200 OK
2. UE service attachment: pull mode

1. UE

2. Core IMS

3. SDF

1. SUBSCRIBE

2. PSI or iFC

3. SUBSCRIBE

4. 200 OK

5. 200 OK

6. NOTIFY

7. NOTIFY

8. 200 OK

9. 200 OK
3.1. BC: Session init

UE → RACS → Core IMS → SCF → ECF/EFF

1. INVITE
2. Resource Reservation
3. INVITE
4. 200 OK
5. Resource Commit
6. 200 OK
7. ACK
8. ACK
9. Multicast Report - Join

Media Stream
3.2. BC: Session termination

1. Multicast Report - Leave
No Media Stream

2. BYE

3. Resource Release

4. BYE

6. 200 OK

5. 200 OK
3.3. BC: Channel switching

1. Multicast Report - Leave
   No Media Stream

2. Multicast Report - Join
   Media Stream

3. SIP INFO (channel)

4. SIP INFO (channel)

5. 200 OK

6. 200 OK