

Architectural Overview of NGN (including IPTV)

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Content

1. Direction from definition
2. NGN Architectural Frameworks
3. IPTV Architectural Frameworks
4. Remaining works
5. Future Plan

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Definition of NGN

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Next Generation Network (NGN):

a **packet-based** network able to provide telecommunication services and able to make use of **multiple broadband**, **QoS-enabled** transport technologies and in which **service-related functions** are **independent** from underlying **transport-related technologies**.

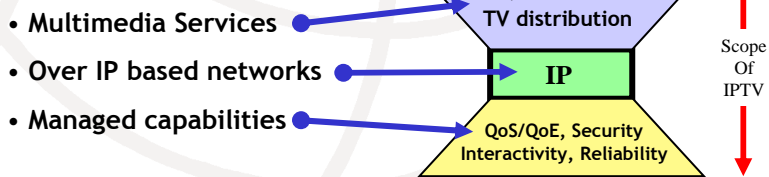
It enables unfettered access for users to networks and to competing service providers and/or services of their choice. It supports **generalized mobility** which will allow consistent and ubiquitous provision of services to users.

Key Principles of NGN

- **Open architecture**: open to support service creation, service updating, and incorporation of service logic provision by third parties and also support “Distributed control” as well as enhanced security and protection.
- **Independent provisioning**: service provision process should be separated from network operation by using distributed, open control mechanism to promote competition.
- **Multiplicity**: The NGN functional architecture shall offer the configuration flexibility needed to support multiple access technologies.

Definition of IPTV

*IPTV is defined as **multimedia services** such as television/video/ audio/text/graphics/data delivered **over IP based networks managed** to provide the required level of QoS/QoE, security, interactivity and reliability*

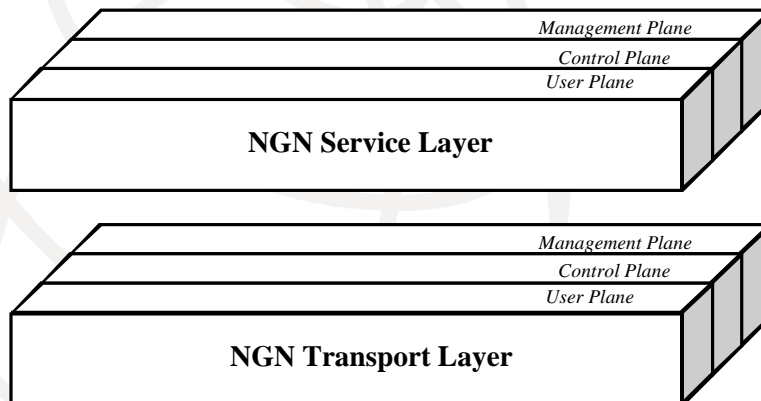


ITU-T IPTV FG 2nd meeting, October 2006, Busan Korea

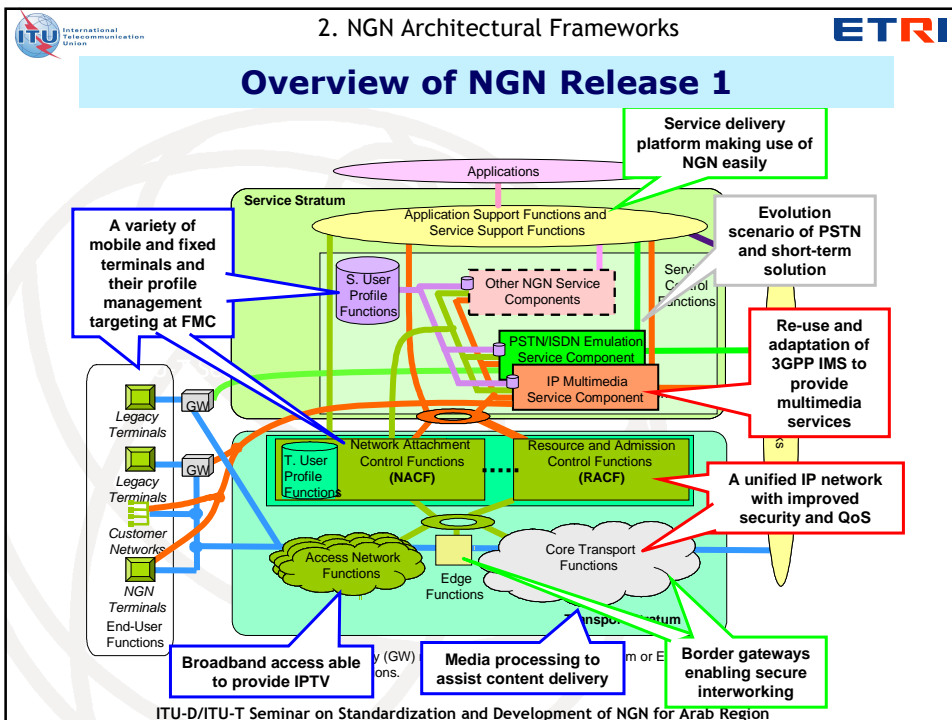
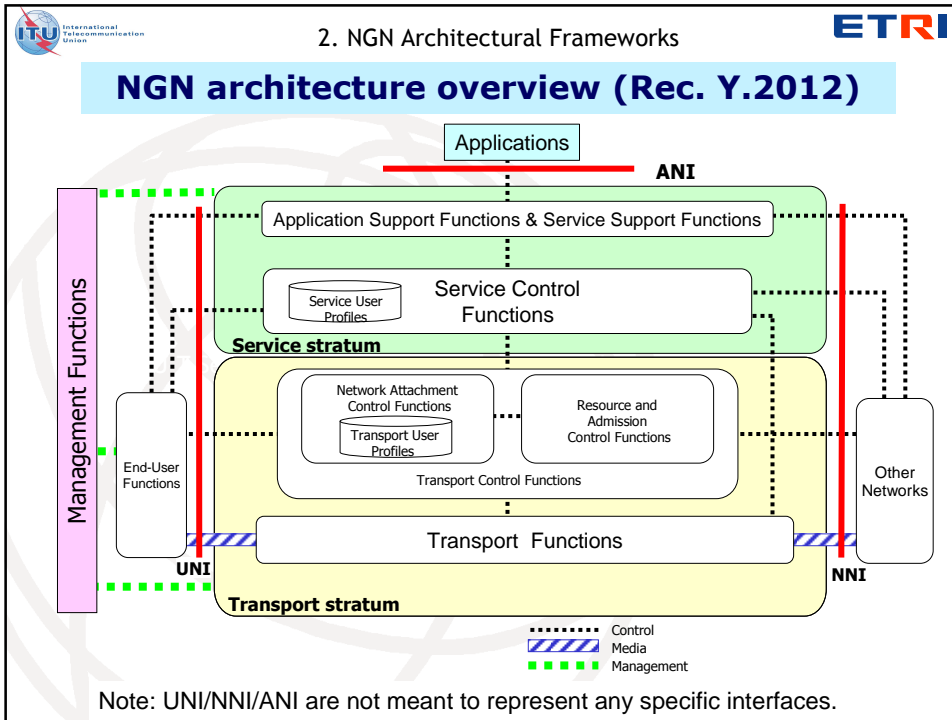
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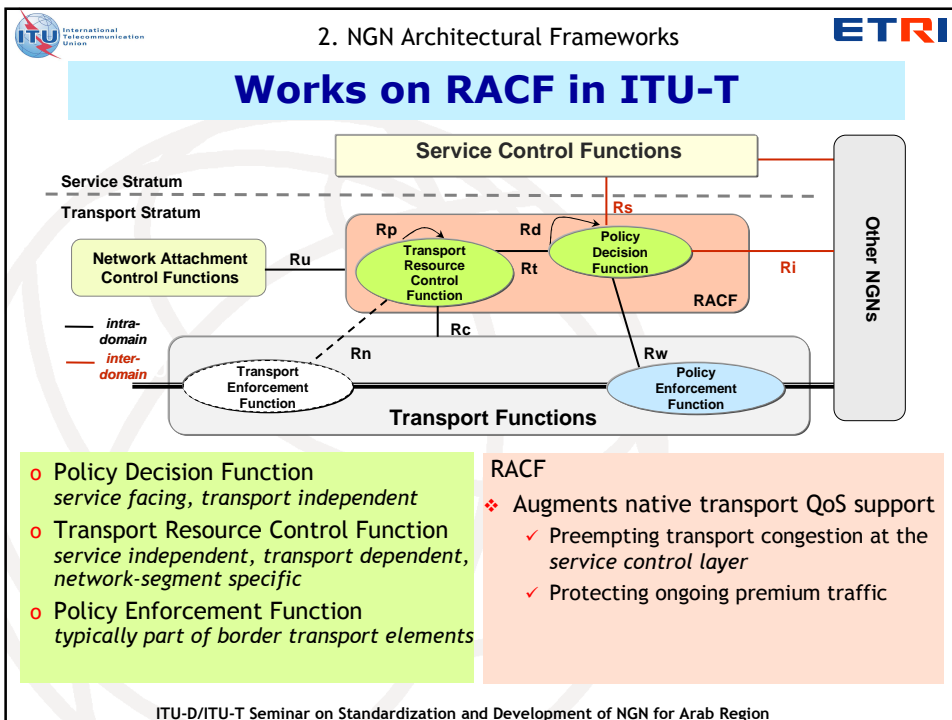
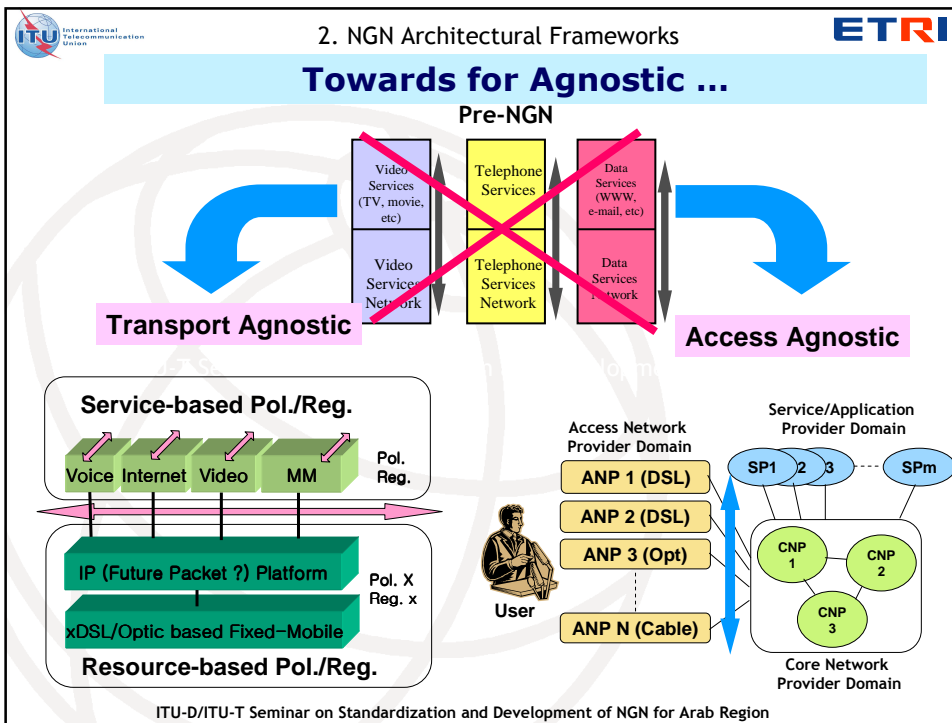
NGN Basic Reference Model

- Separation Transport (Access and Core) from Services
- But keeping 3 Planes for basic function: User, Control and Management



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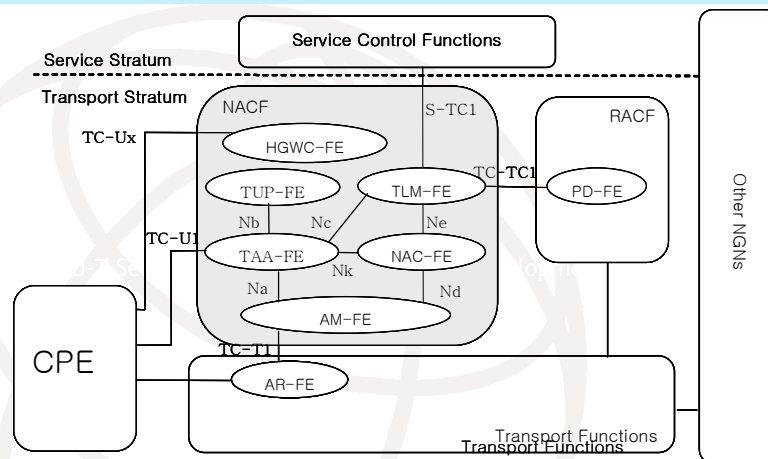


High Level Requirements of NACF

- 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.
- Authorization of network access, based on user profile.
- Access network configuration, based on user profile.
- Location management.

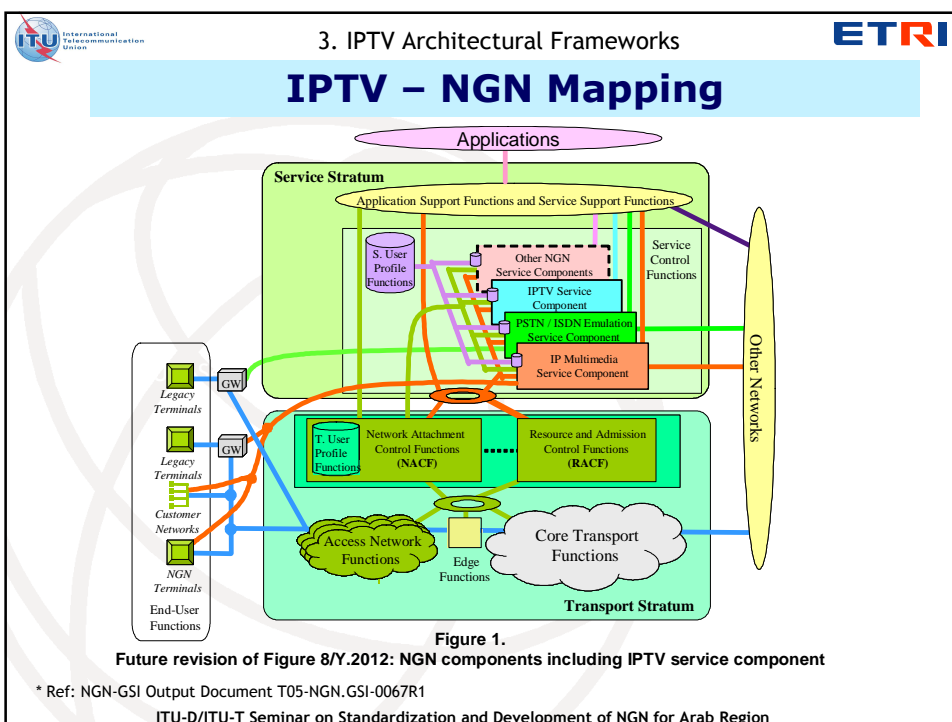
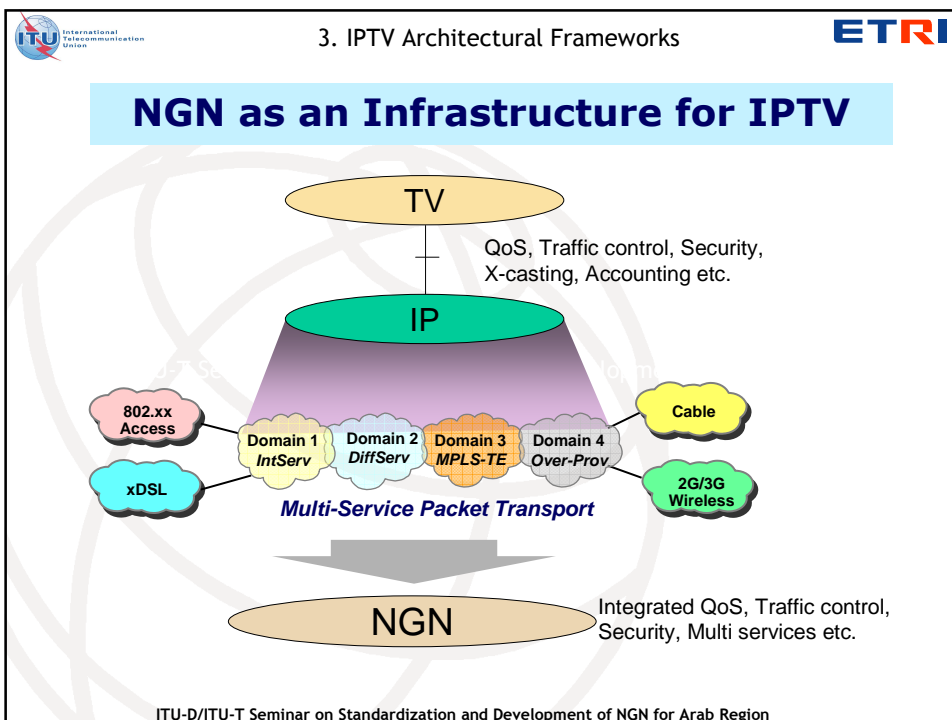
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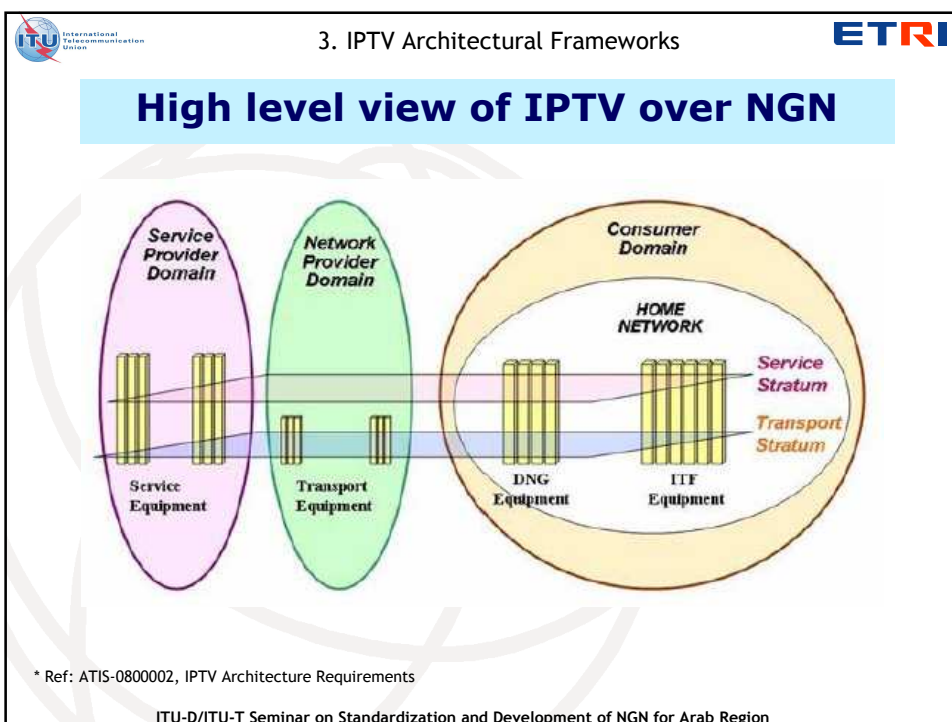
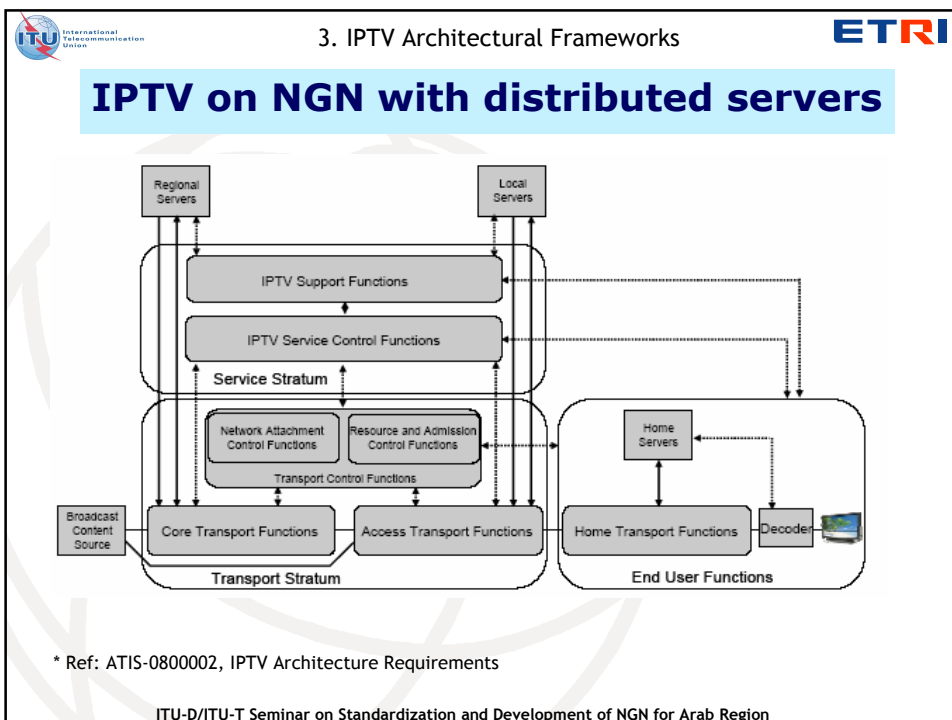
Functional Architecture of NACF

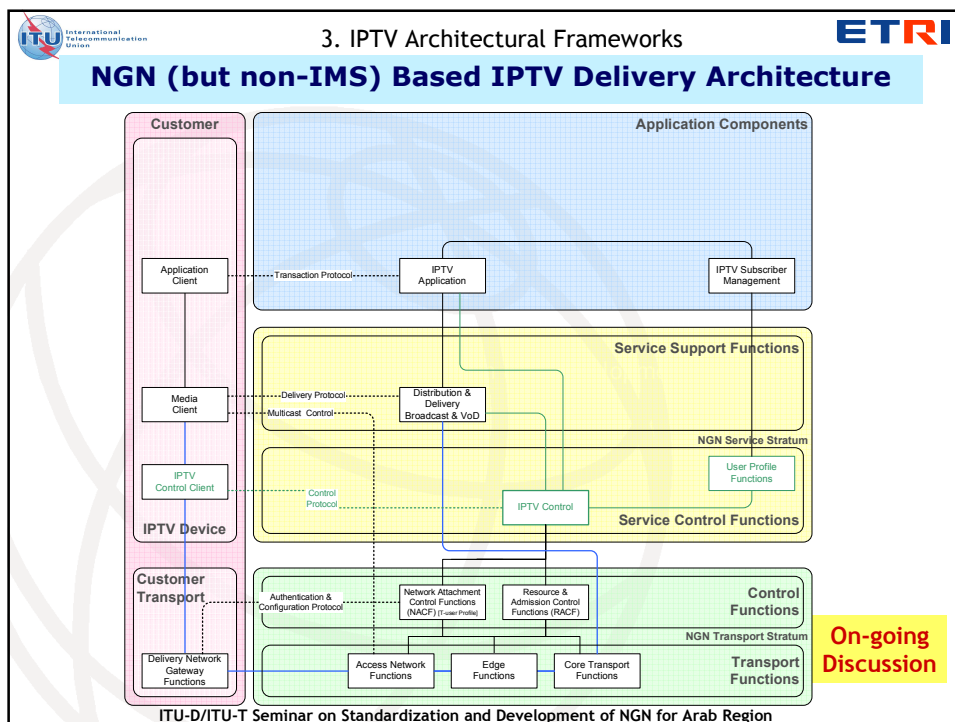
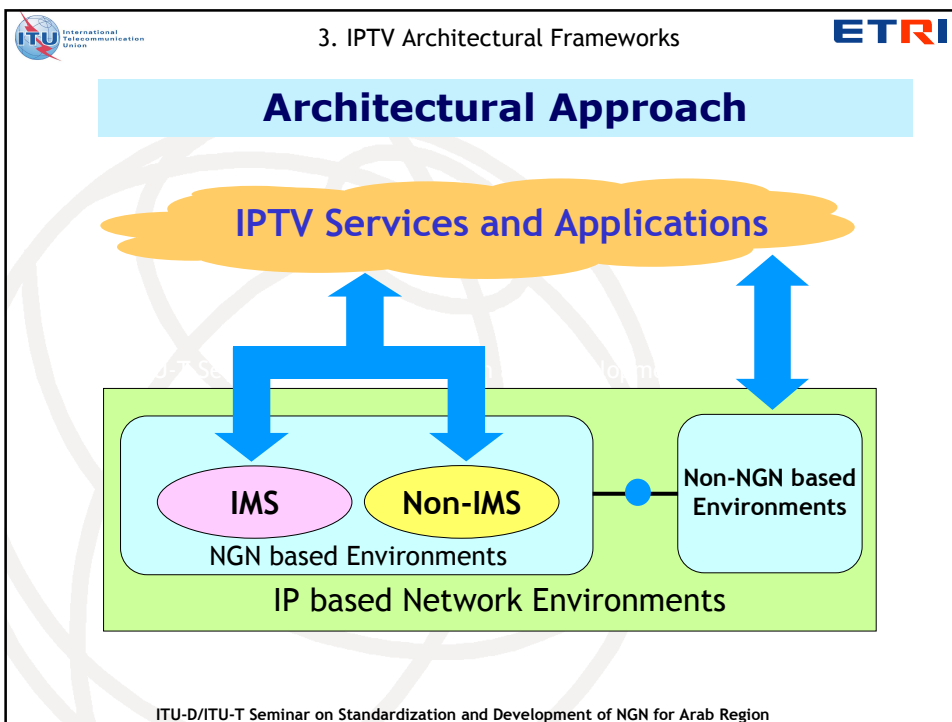


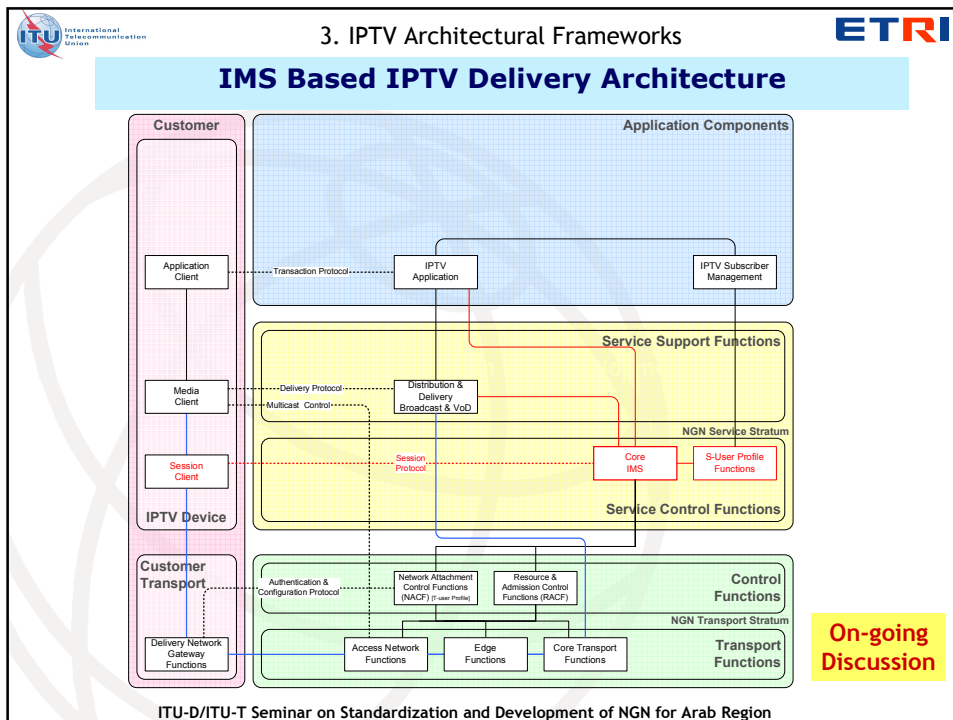
NAC-FE (Network Access Control Functional Entity)
 AM-FE (Access Management Functional Entity)
 TLM-FE (Transport Location Management Functional Entity)
 TAA-FE (Transport Authentication and Authorization Functional Entity)
 TUP-FE (Transport User Profile Functional Entity)
 HGWC-FE (Home GateWay Configuration Functional Entity)
 AR-FE (Access Relay Functional Entity)

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4. Remaining Works ETRI
- ### Remaining Works in NGN and IPTV
- NGN R1 frameworks are almost finished
 - Protocol developments has been started:SG11
 - NGN R2 Requirements are being developed
 - FRA 2, RACF 2 and NACF also started for R2
 - **Need more works to support Services/Applications over NGN**
 - IPTV is just being developed
 - Definition, Requirements and Architecture
 - **Need more detailed functional studies; IPTV service components, Middleware PF, STB etc.**
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