NGN

ARCHITECTURES AND PROTOCOLS FOR CONVERGENCE

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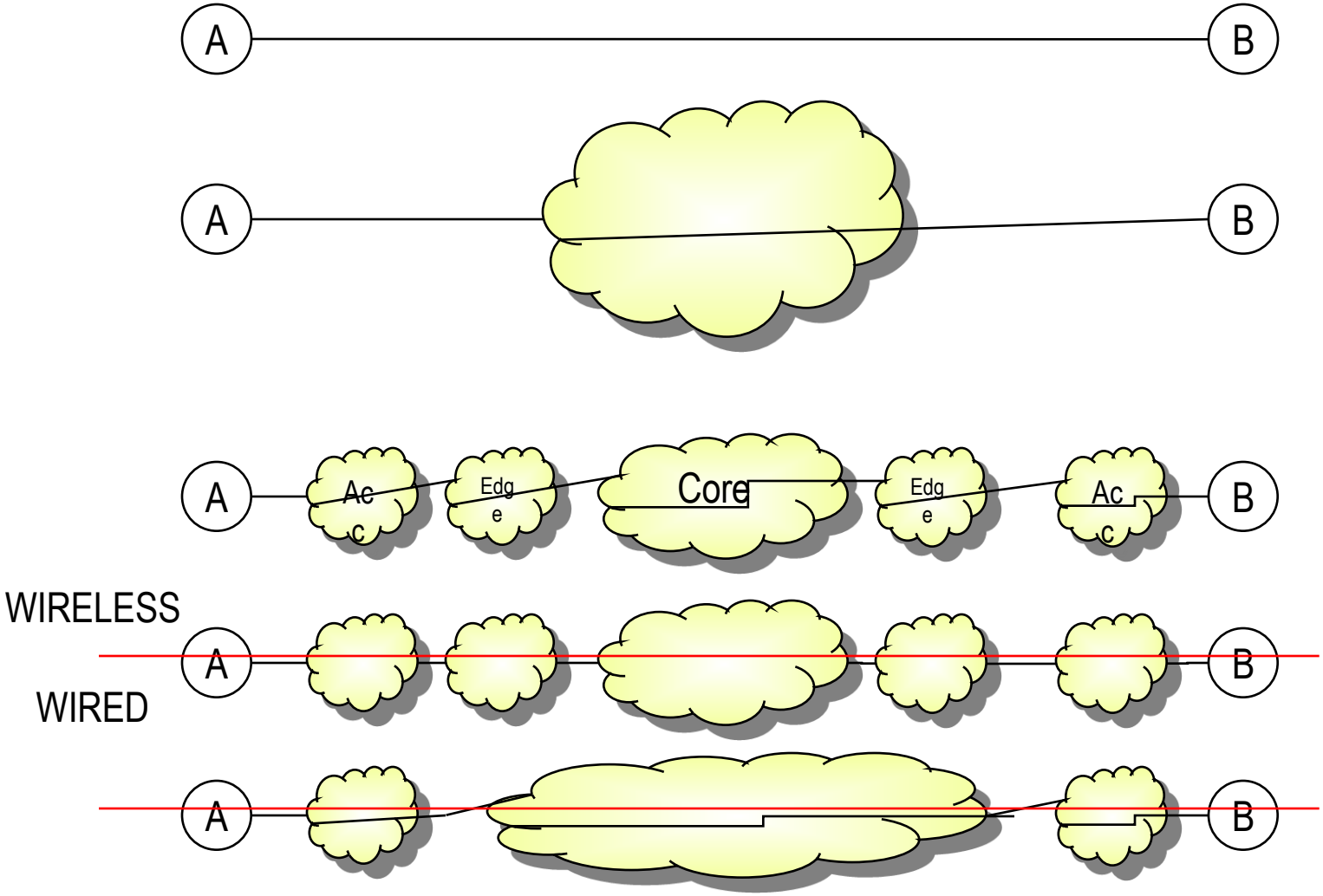
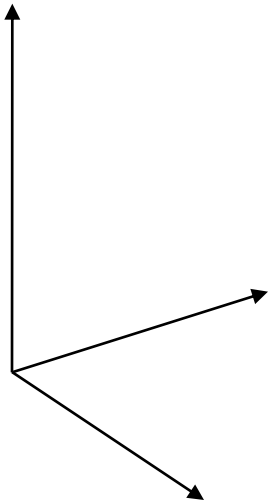
NCC 2012

Networks 101

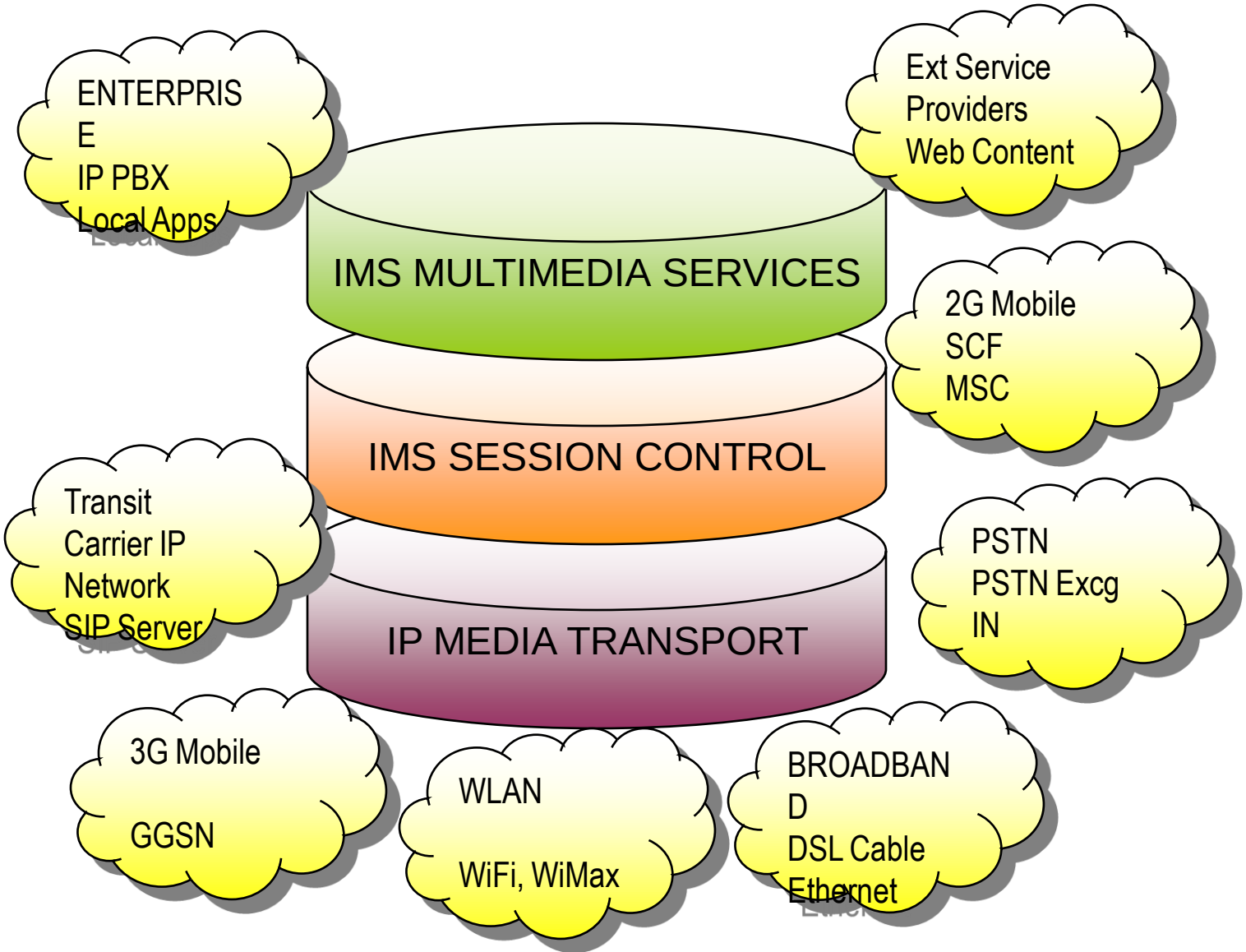


What do we *really* need from a network ?

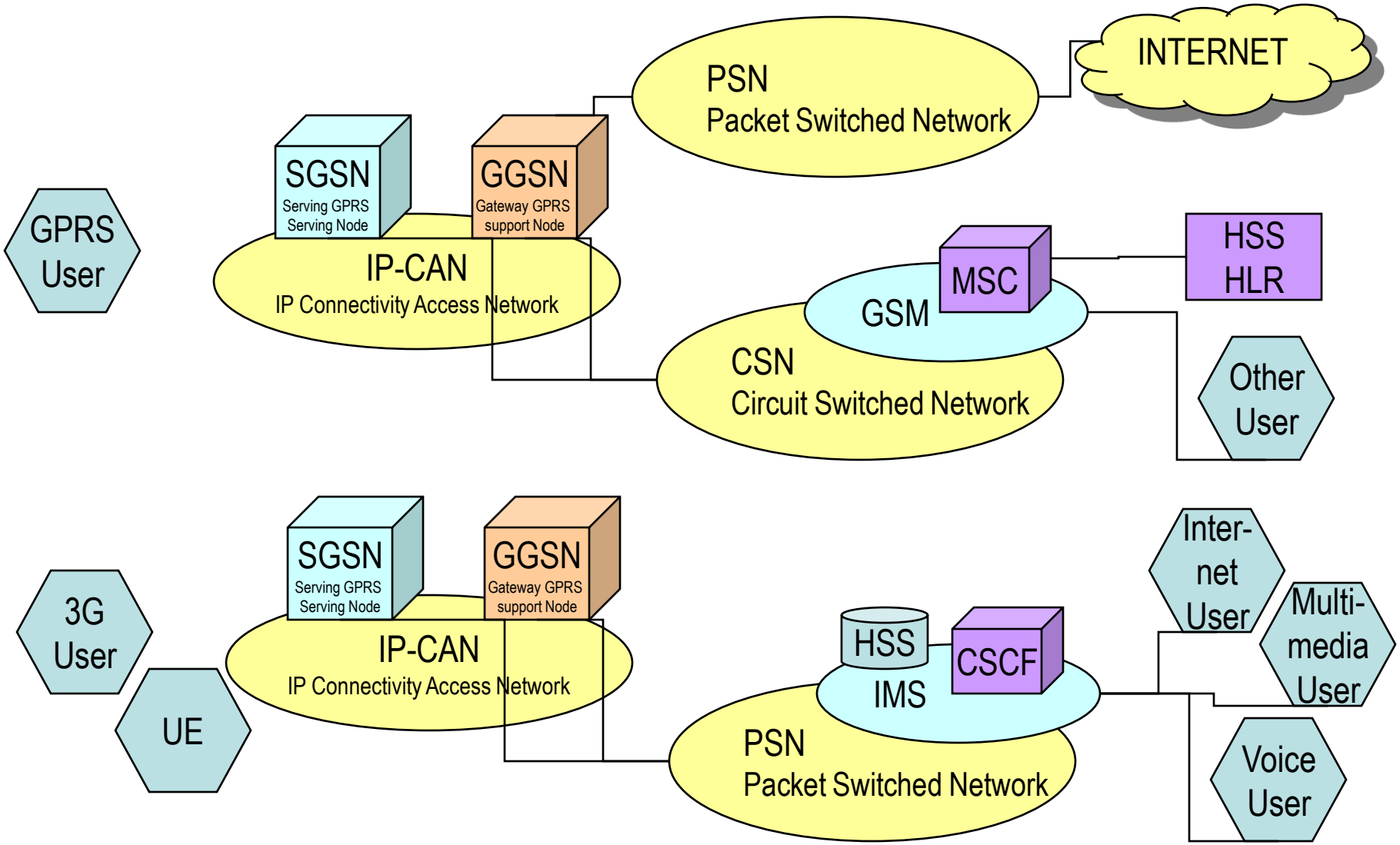
- Always available Services
- Pervasive Control
- Efficient Media Transport



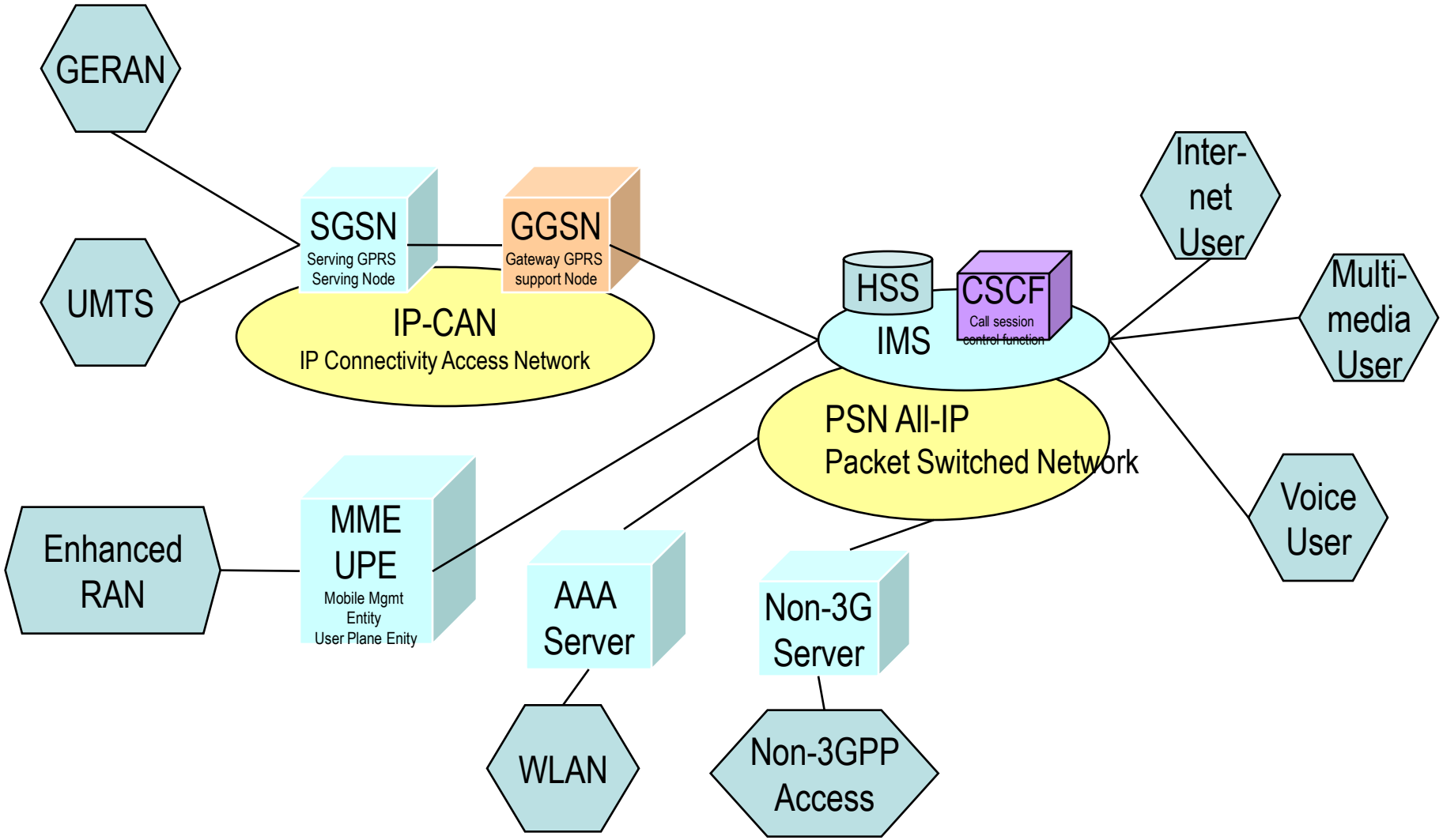
IMS and its relation to other networks



How the IMS and 3G came about



The road-map


GERAN
UMTS
SGSN
Serving GPRS Serving Node
GGSN
Gateway GPRS support Node
IP-CAN
IP Connectivity Access Network
HSS
CSCF
Call session control function
IMS
PSN All-IP
Packet Switched Network
Inter-net User
Multi-media User
Voice User
Enhanced RAN
MME
UPE
Mobile Mgmt Entity
User Plane Enity
AAA Server
WLAN
Non-3G Server
Non-3GPP Access

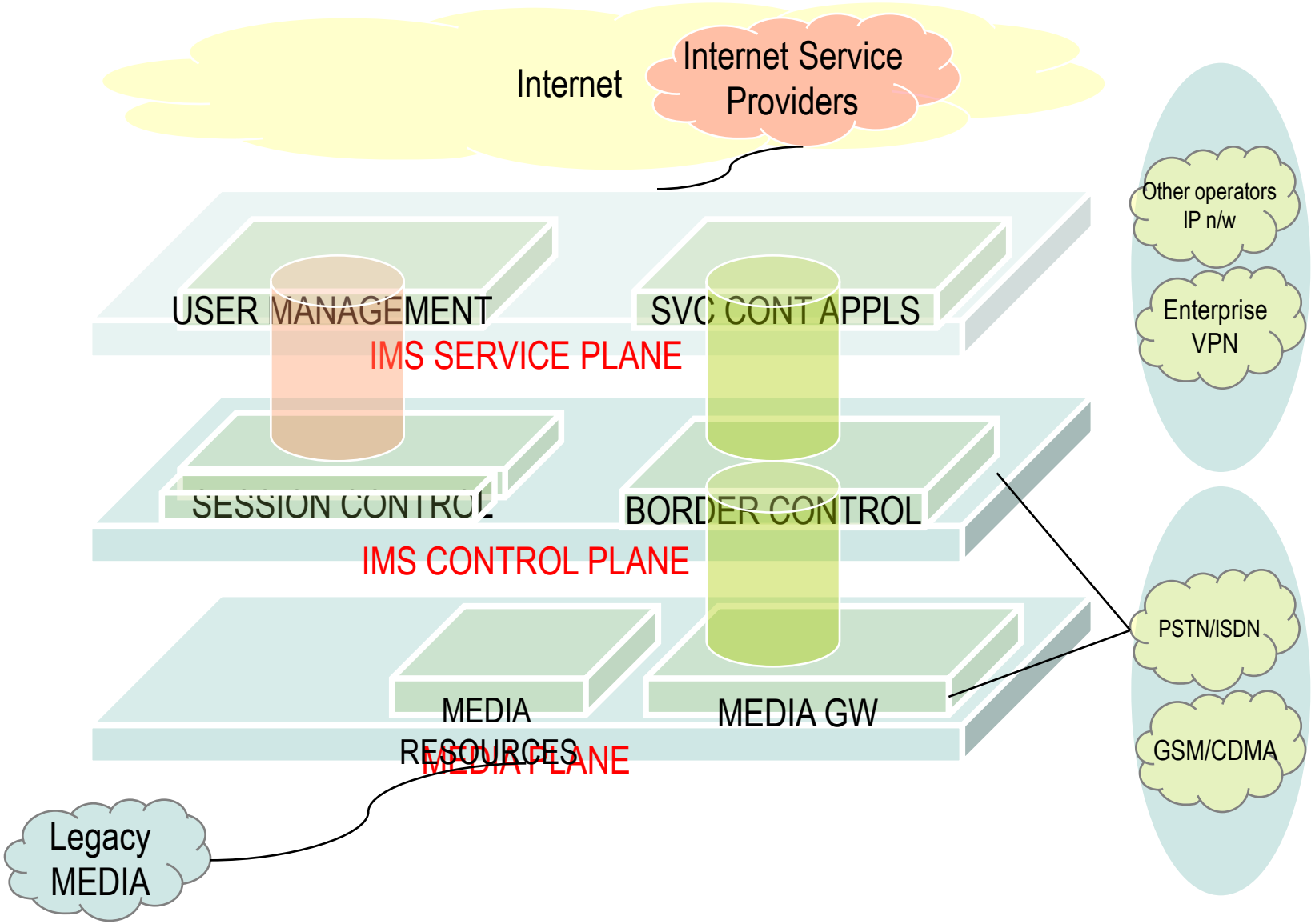
Principles of IMS

- Unifying layered architecture
  - Separation of responsibilities with THREE main planes
    - Access/transport (carry the media)
    - Session Control and service Enablers
    - Applications, Features and Services Logic
- Multifacet convergence
  - Combine wireless and wireless breakout infrastructure (Media Gateways)
  - Combine wireless and wireless in single session control
  - Combining user identity and information (location, identities, single sign-in)
  - Same applications on different clients with the same UI
  - Sharing resources (HSS, Presence, Media servers)

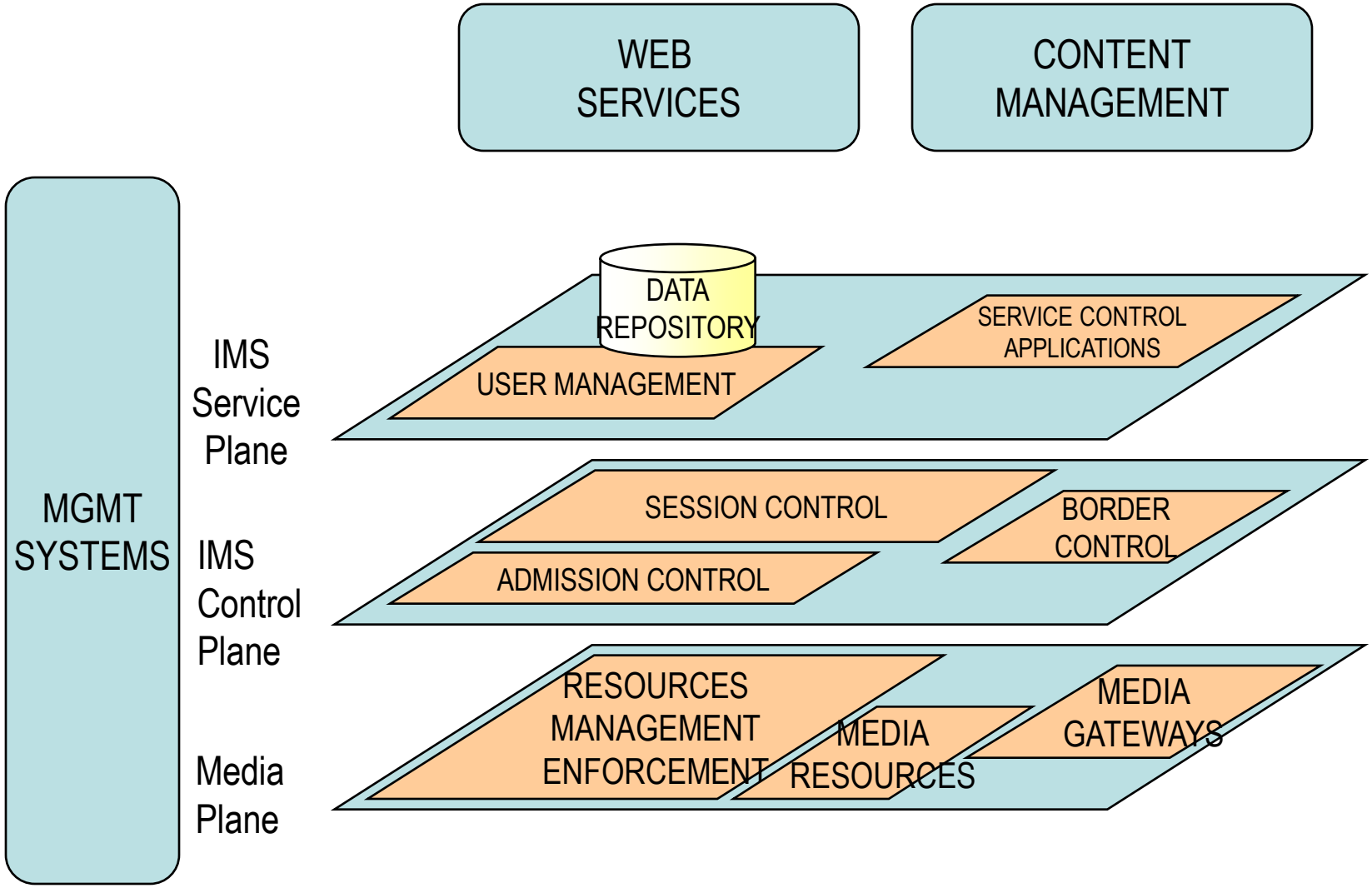
Multiple Access / Legacy Access in IMS

- Interfaces to 3G UMTS, WLAN, Broadband DSL, Cable, Metro Ethernet and WiMax
- The 3GPP (3G Partnership Project) defines the IMS as a sub-system just above the UMTS access n/w
- TISPAN (Telecom and Internet Services and Protocols for Advanced Networks) defines the more generic Core IMS shared by all access networks

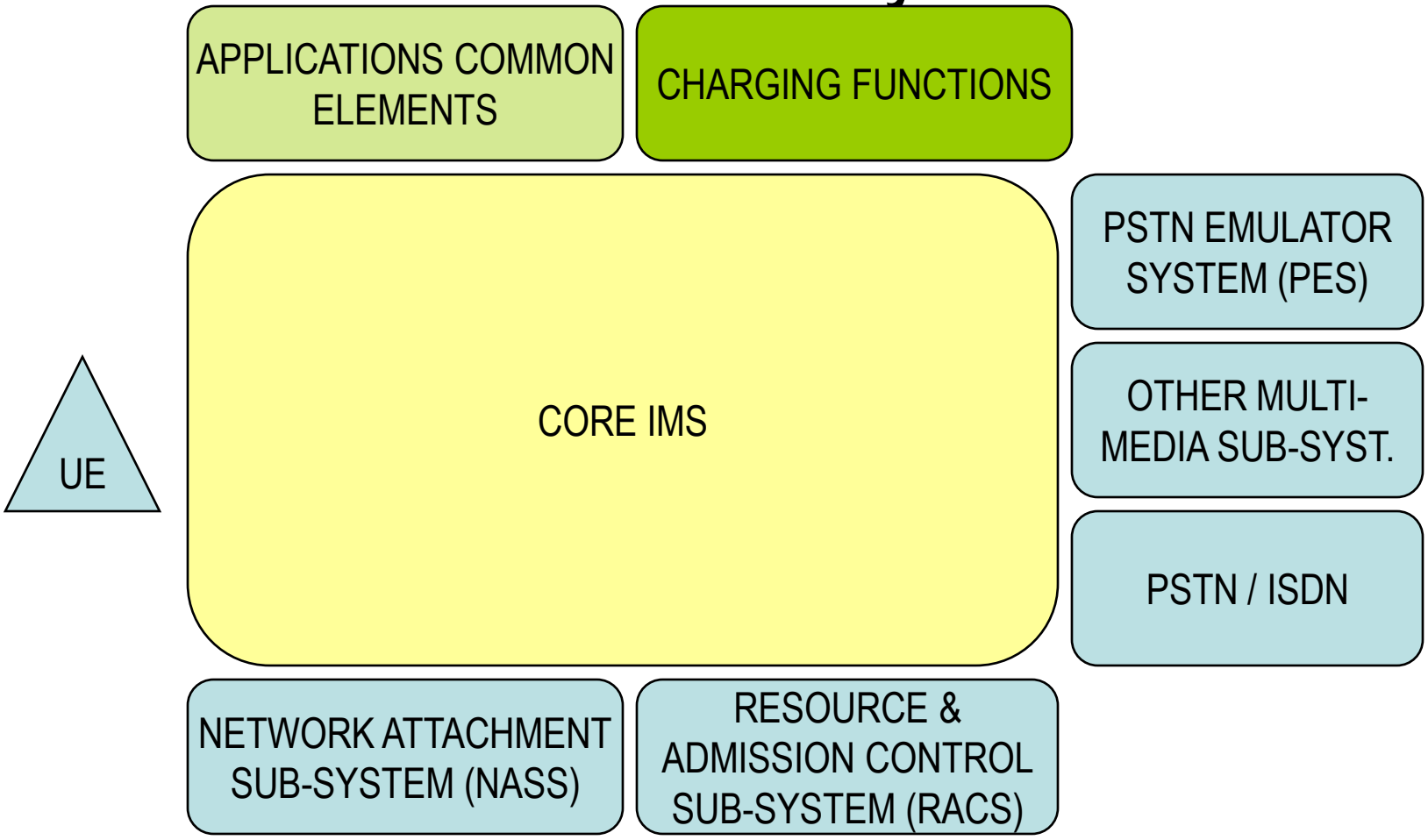
Multi-access IMS



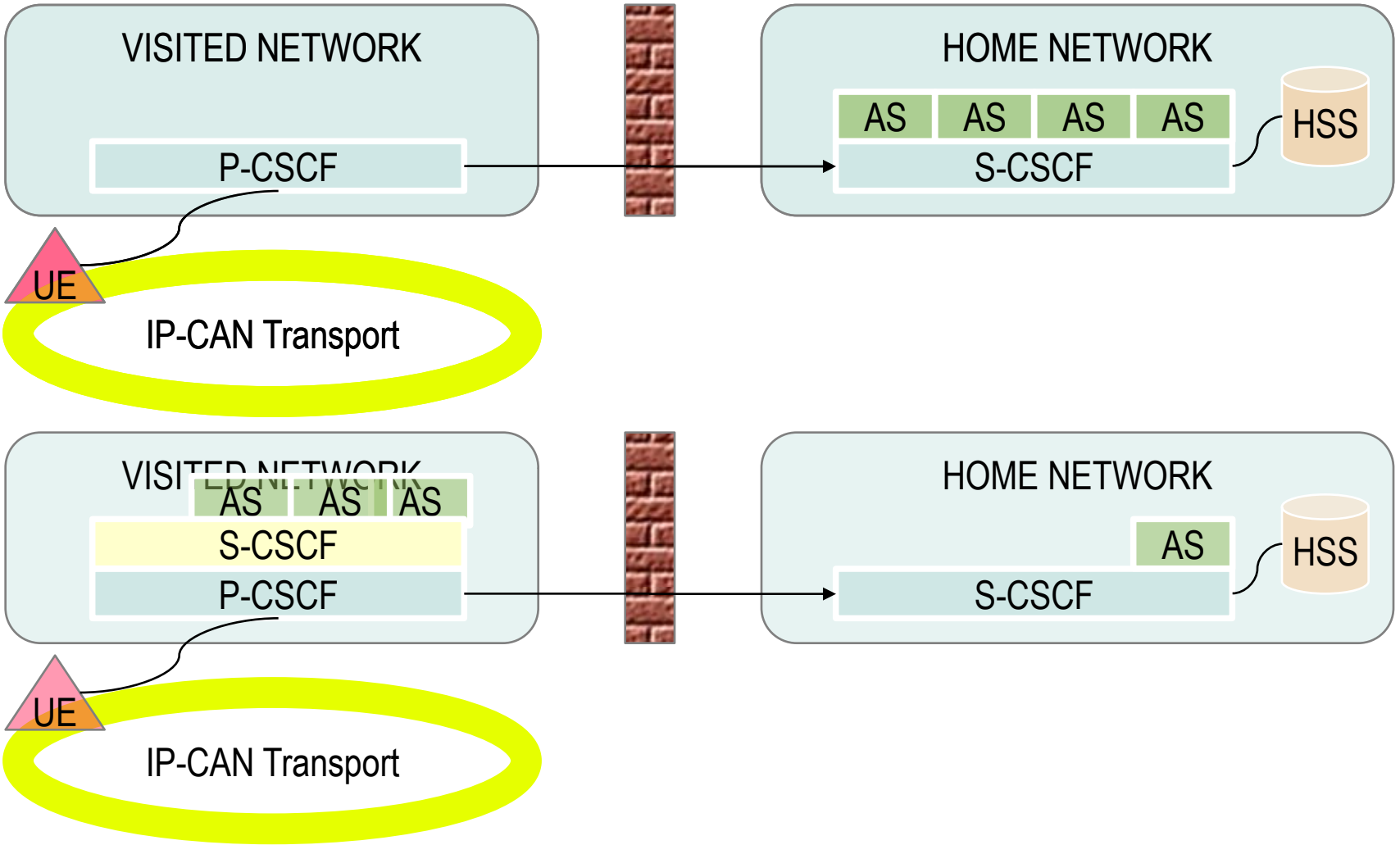
The three layers in IMS



Core IMS with sub-systems



Mobility and Service



Then ... the Byte

- Open Architecture and Interoperability
  - Service Environment
- Mobility
  - User Mobility
  - Service Mobility
  - Delivering Services to Nomadic Users
- Resourcing and QoS
  - Resourcing and Policy
- Services Environment
  - Applications Environment
- Combining technogies
  - Wireless and IMS
  - Wireless and IMS
  - Internet and IMS
  - IT and ICT – presence services
    - OSS Operational Support Systems