

# Implementing an End-to-End IP Mobile Network

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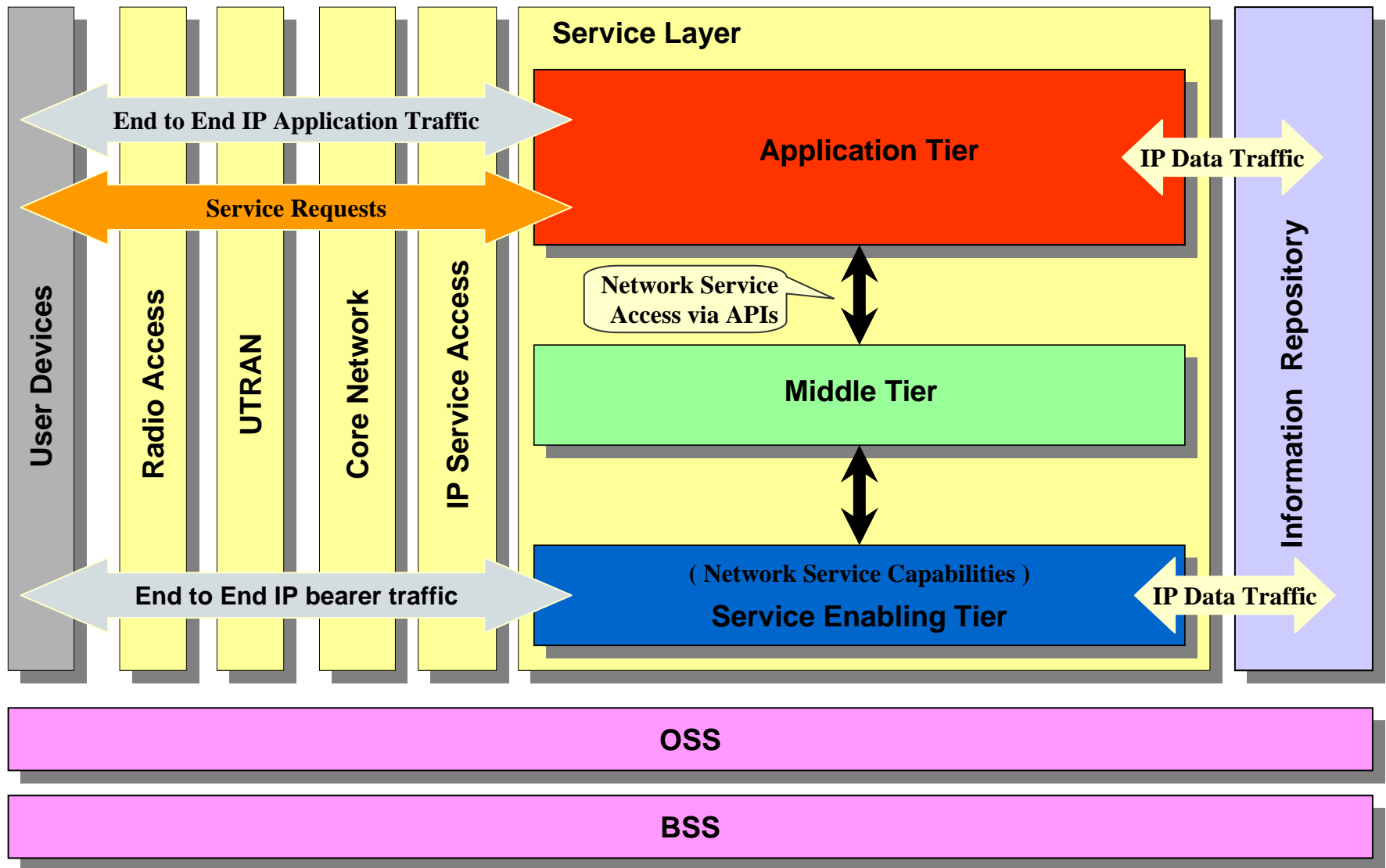
# Major Industry Trends

- Wireless world and IP World are converging
  - Building packet switched networks: GPRS to UMTS
  - Move to All-IP mobile networks
  - IP everywhere - from devices to IT systems
- Going up the value chain and offering mobile multimedia services
  - No more voice-only or bit-pipe scenarios
  - Defining compelling applications and retaining the value are major challenges
- Regional / Global networks and services
  - Common services across multiple networks - common service platform
  - Roaming requirements for multimedia services

*More Revolution than Evolution*



# mmO<sub>2</sub> End-to-End Architecture



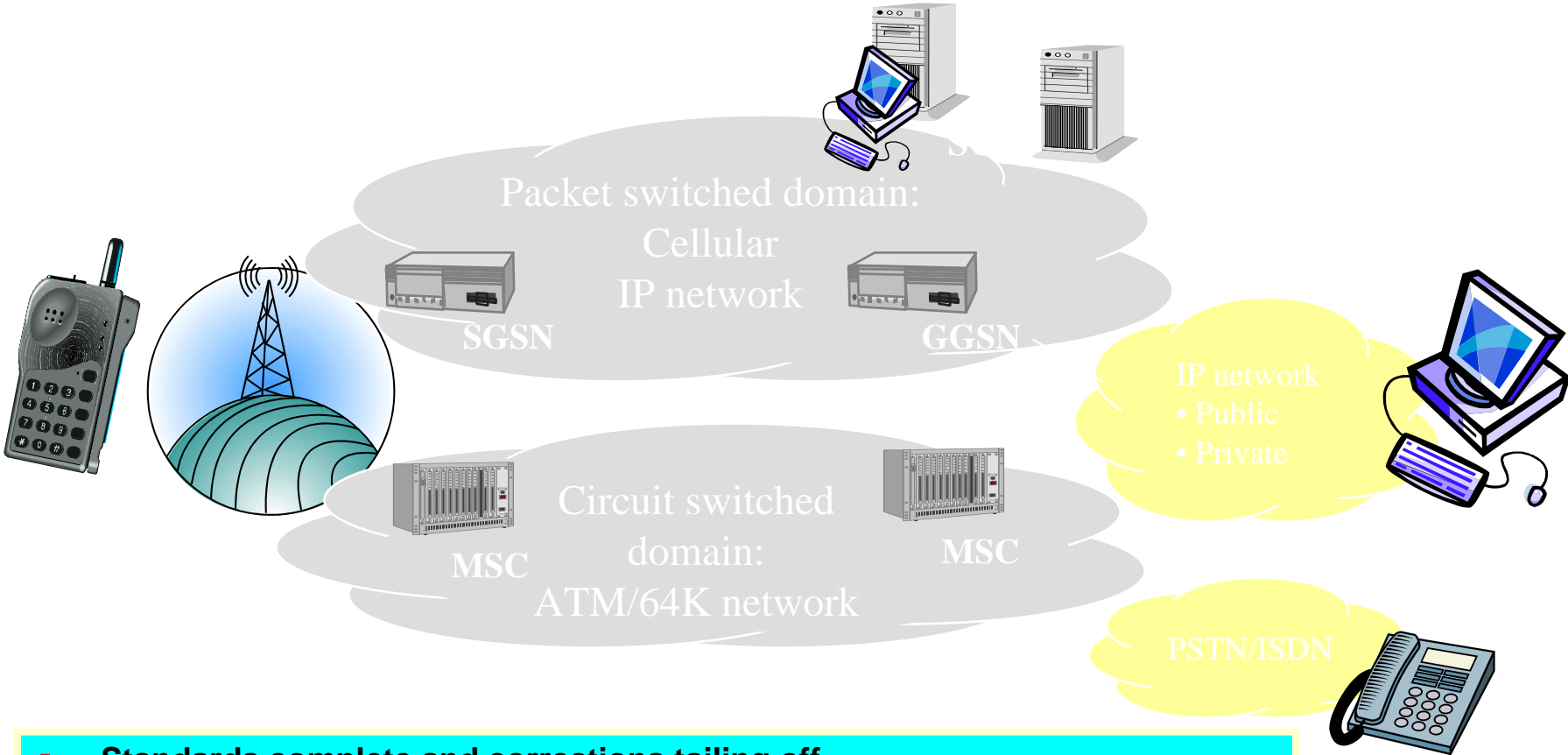
# mmO<sub>2</sub> High Level Roadmap

- Optimise current GSM / GPRS implementations today  
New services & applications being launched with GPRS
- Launch 3G networks starting in 02
  - New revenues due to large number of new services & applications
  - Cost reduction due to use of ATM technologies, replacing TDM
- All-IP networks in “evolution” phases, starting in 04
  - Significant number of new services & applications based on real time IP, such as mobile multimedia over IP
  - Significant cost reductions due to use of IP technologies all over the networks

*All roads lead to IP !*

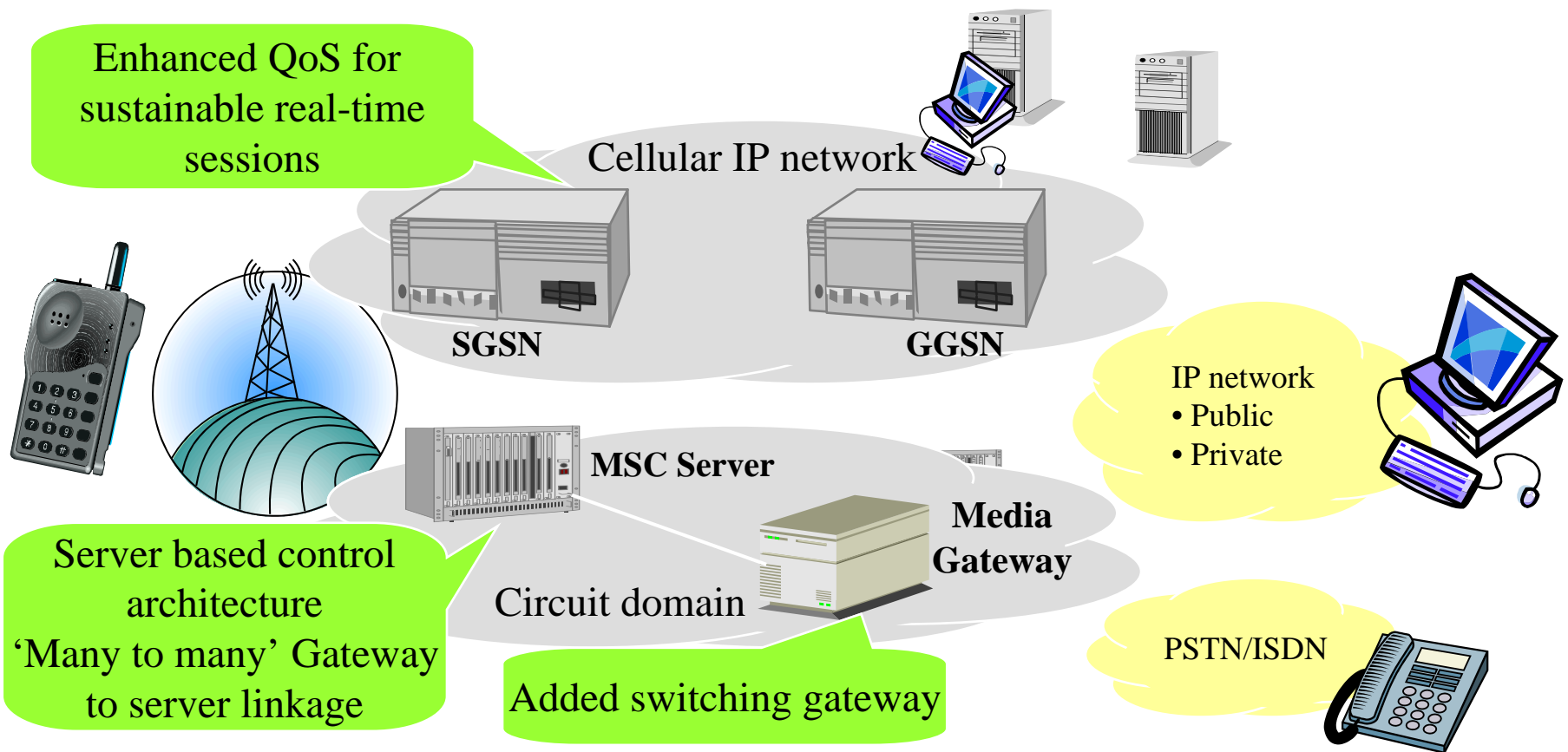


# Core Network UMTS Launch Architecture



- Standards complete and corrections tailing off
- Equipment coming on-stream,
- Leverages GSM core: technology and roaming, reduced launch risk
- Handset availability still an issue

# R4 - Enhanced UMTS Architecture



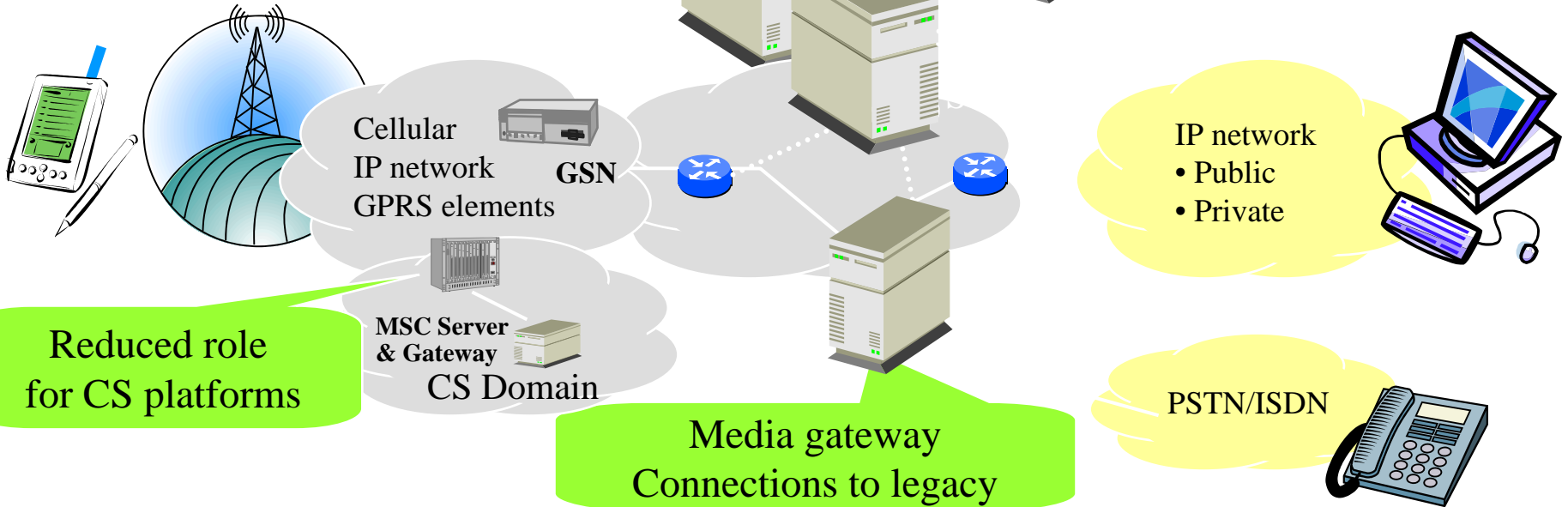
- Major enhancements to PS; some enhancements to CS
- On many vendors current roadmap or offering
- Potential launch platform depending on timeframe

# R5 - IP Multi-media

Shared application control  
Multi-vendor platforms  
Linkage to legacy n/w

Call Server  
for call/session  
control via 'SIP',

Home Subscriber  
Server (HSS)  
Evolved HLR  
User information  
Roaming to GSM



Reduced role  
for CS platforms

PSTN/ISDN

Media gateway  
Connections to legacy

- Supports real time Multi-media IP applications
- Major change to infrastructure
- Significant cost savings & revenue increase

# Areas of Further Work for End-to-End IP Mobile Networks

- **Quality of Service**
- **Security**
- **Charging**
- **Service definitions**
- **APIs**

