ERICSSON

3G IP

Mobile Internet Revolution

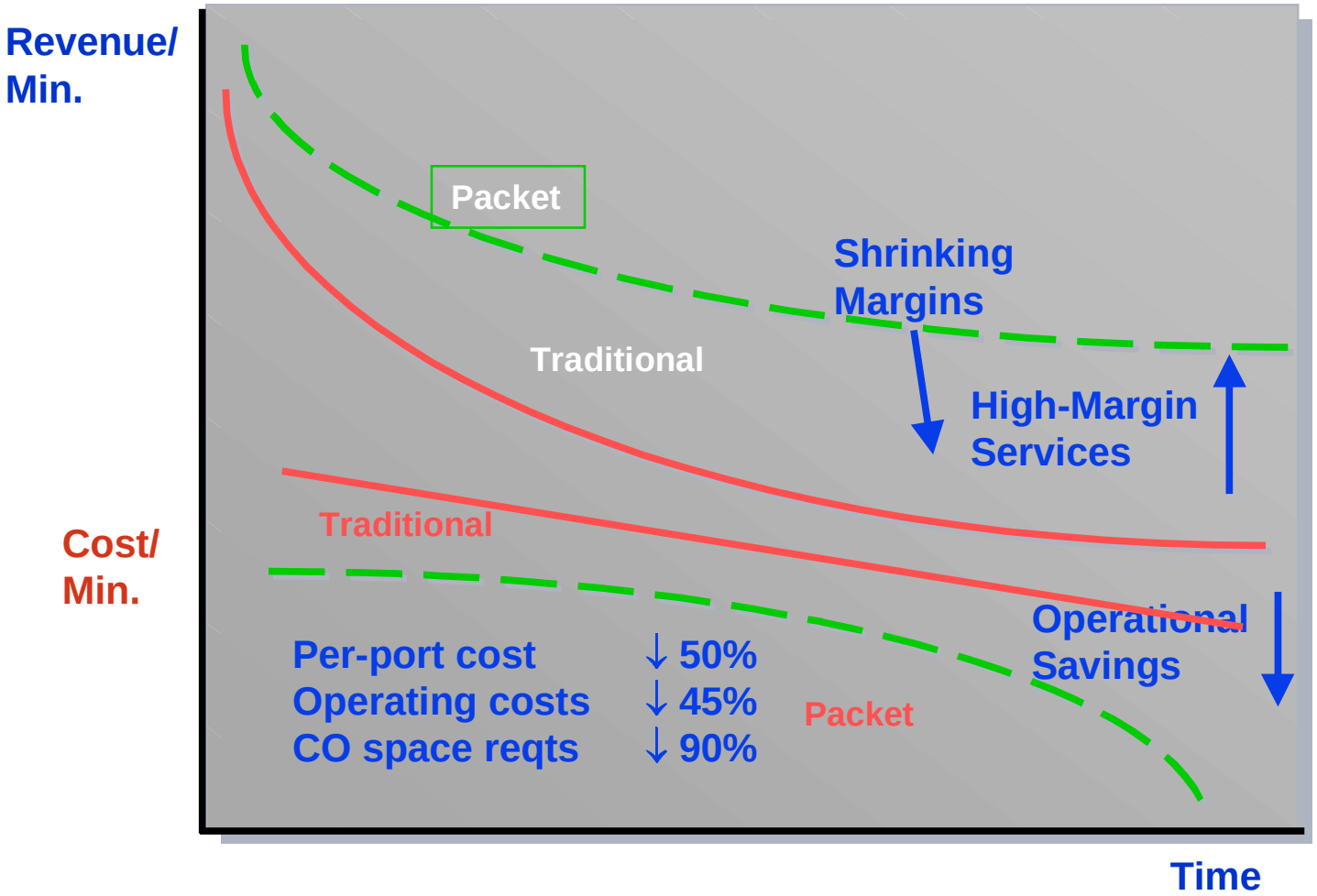
The Power of Mobility

Jeff Low

Vice President

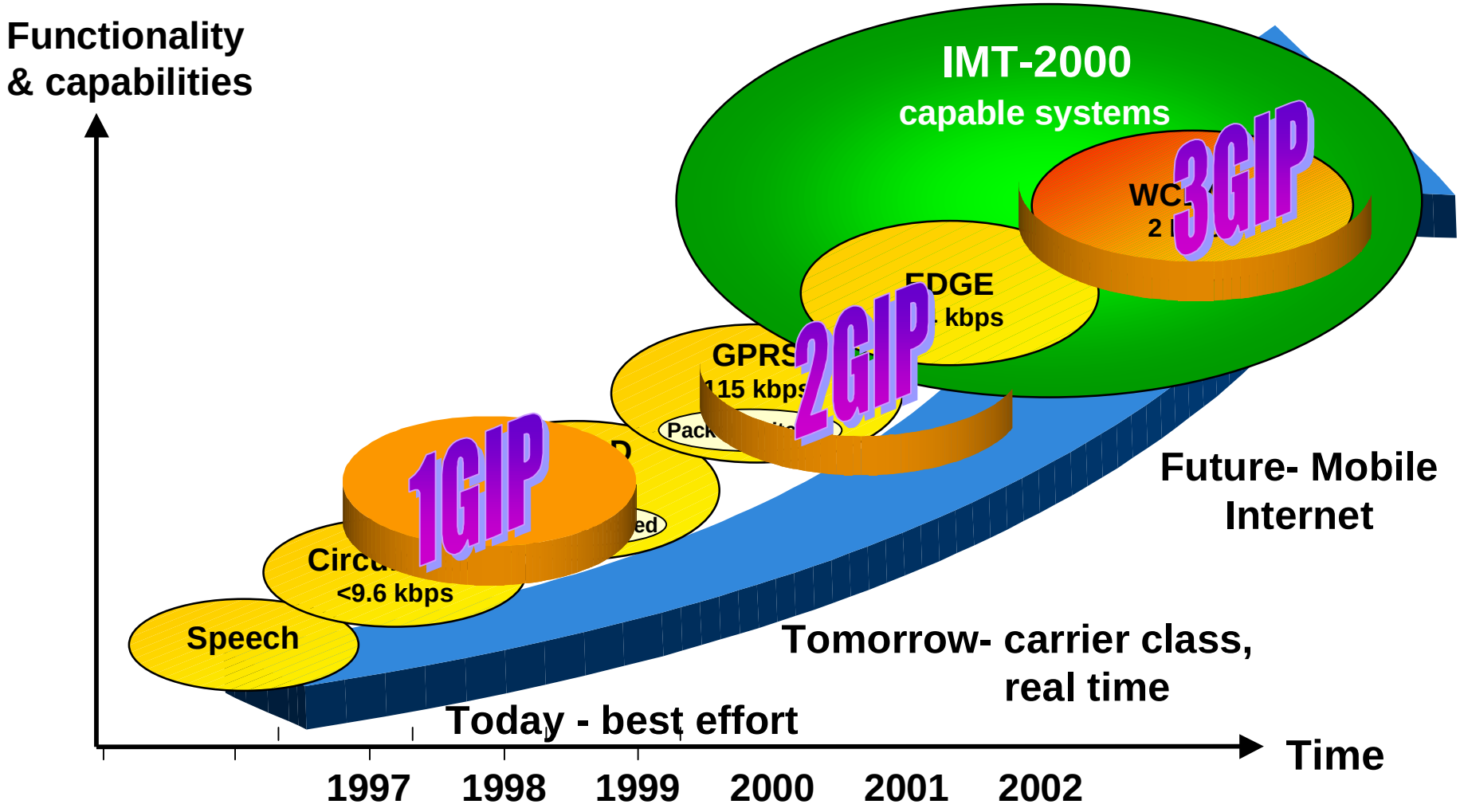
Ericsson Datacom

Packet vs. Circuit Economics



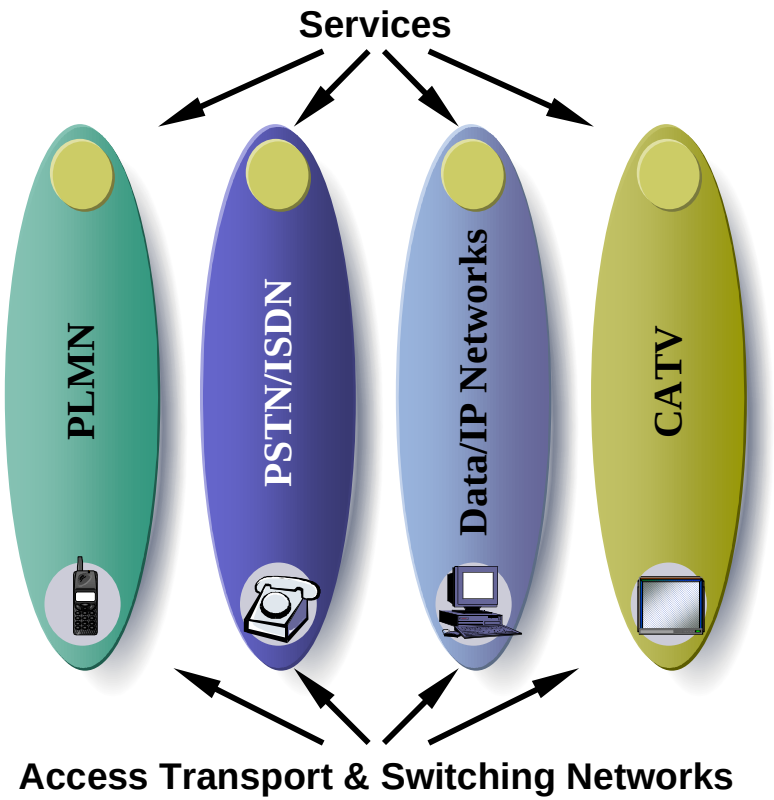
Source: Sonus Networks

Mobile Bearer Service Evolution

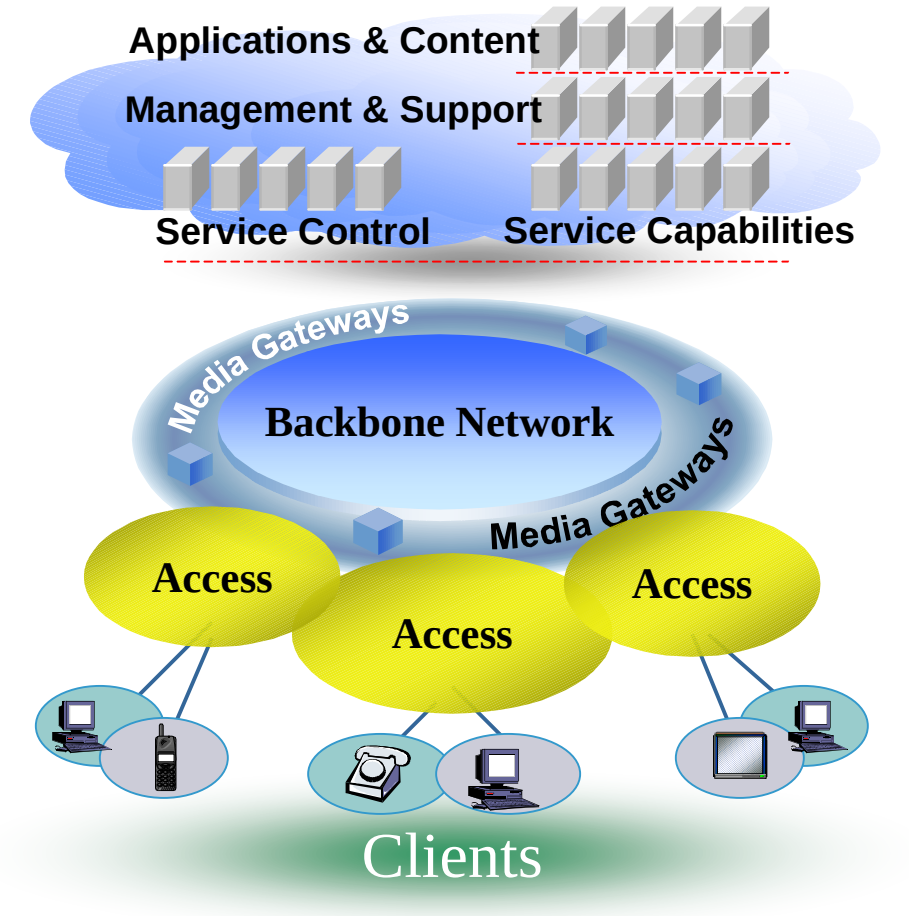


Multi-Service Network Architecture

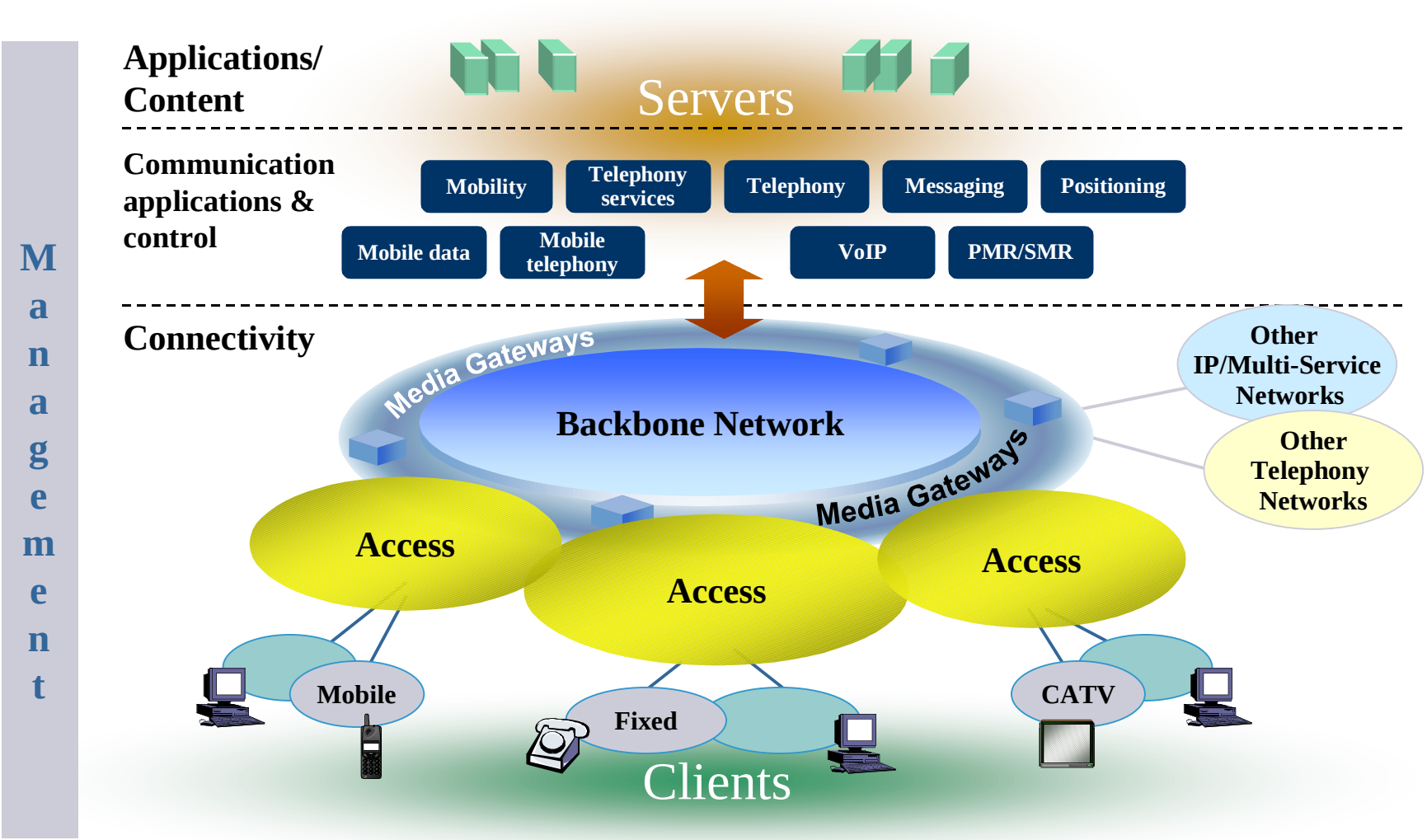
Today



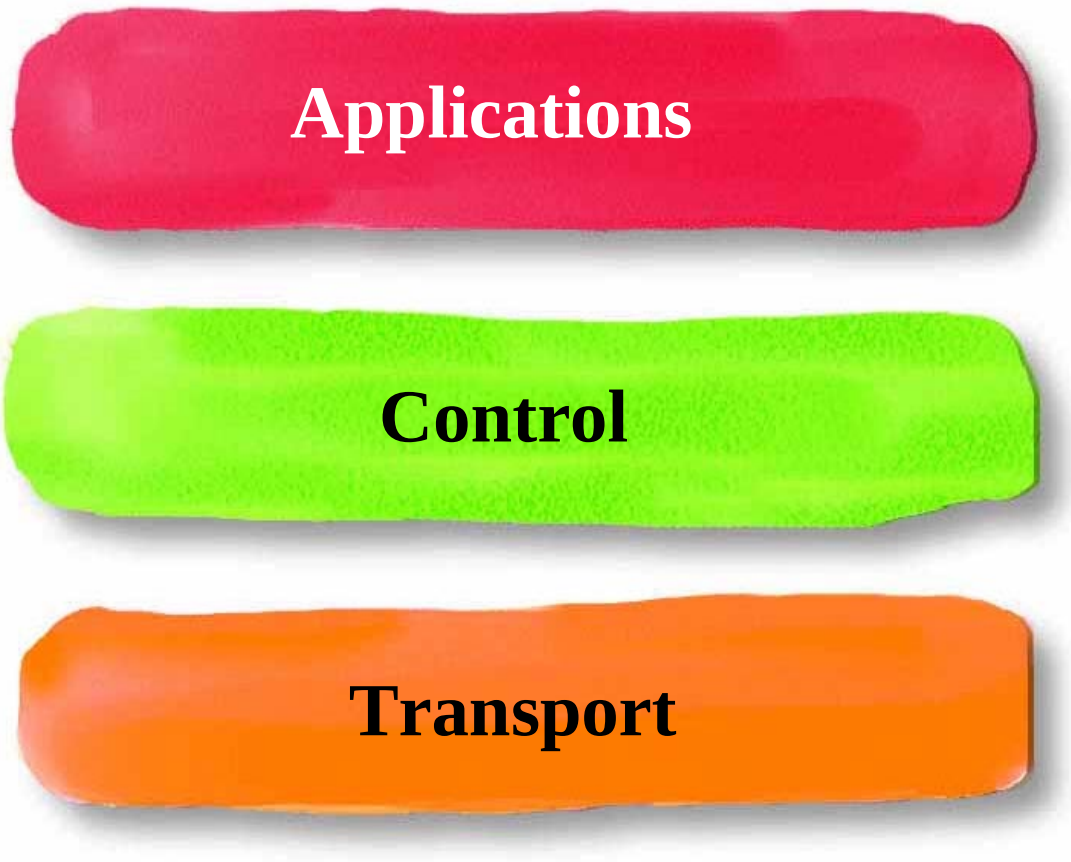
Future



Multi-Service Network Architecture



Layered Network Architecture



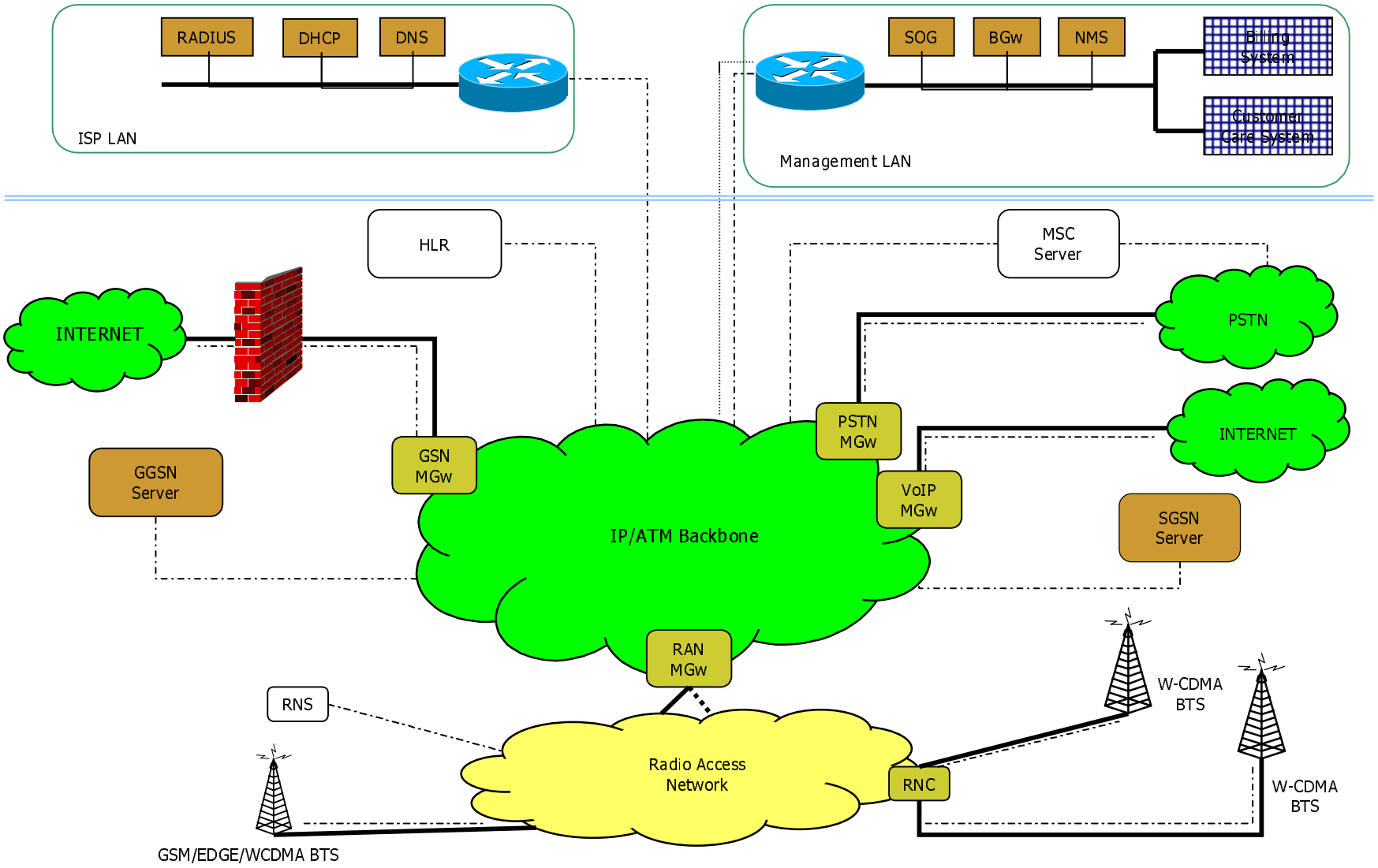
- IP Applications
- Virtual Home Environment
- Open Service Architecture

Network specific

- Call control
- Session management
- Mobility management

- Transcoding at the edge
- User plane devices
- Switching
- Routing

3G Customer Scenario



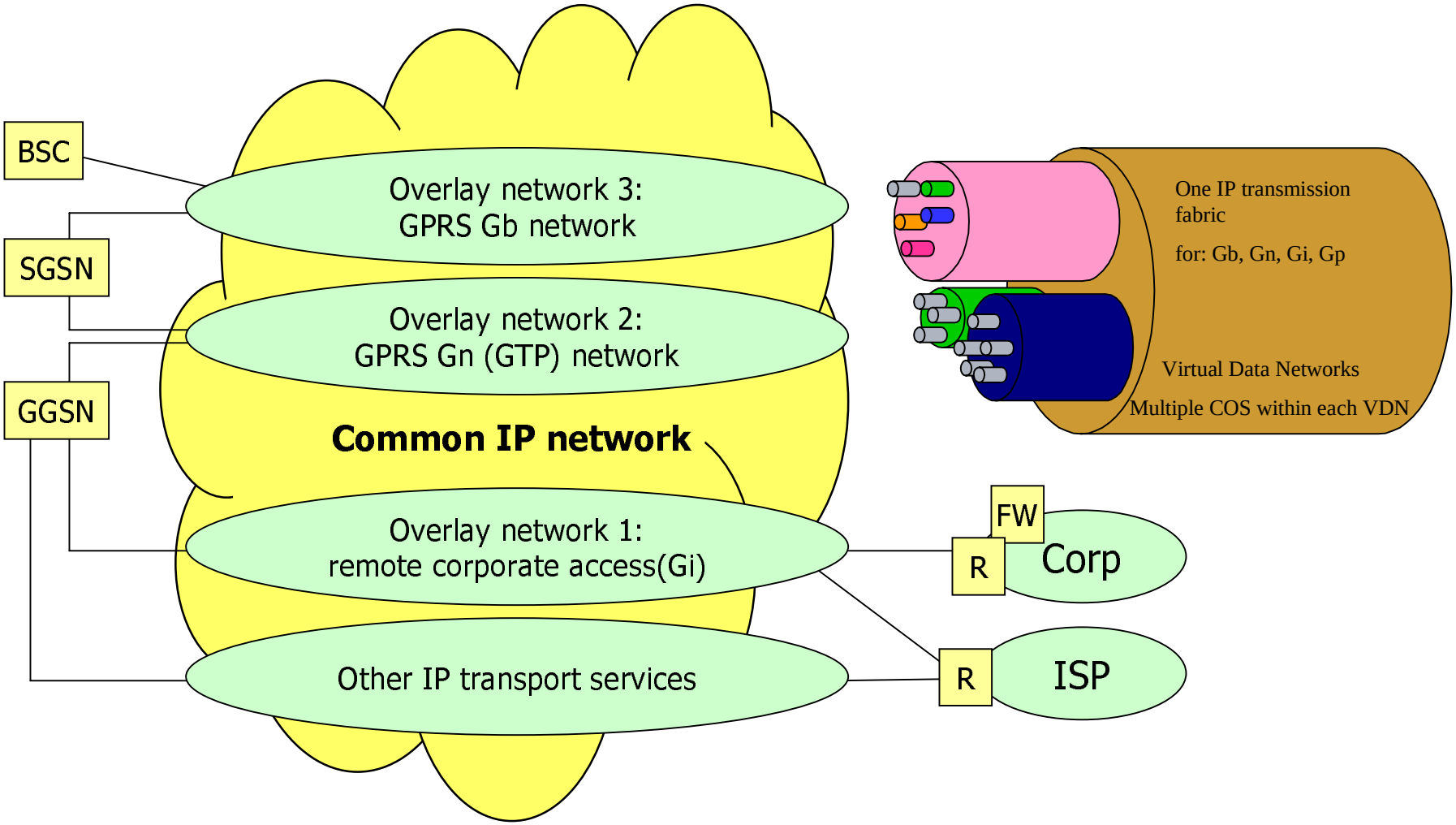
IP Services Architecture

- Real-time IP backbone/core network
  - MPLS-based multi-service backbones
  - Virtual Private Networks
- Policy-based management
  - COPS-enabled systems
- Directories
  - LDAP-enabled systems
- Address management
  - DNS/DHCP systems
  - Virtual Routers
- Security
  - AAA systems
  - Encryption (IPSEC)
  - MPLS
- Signalling
  - Media Gateways and Controllers

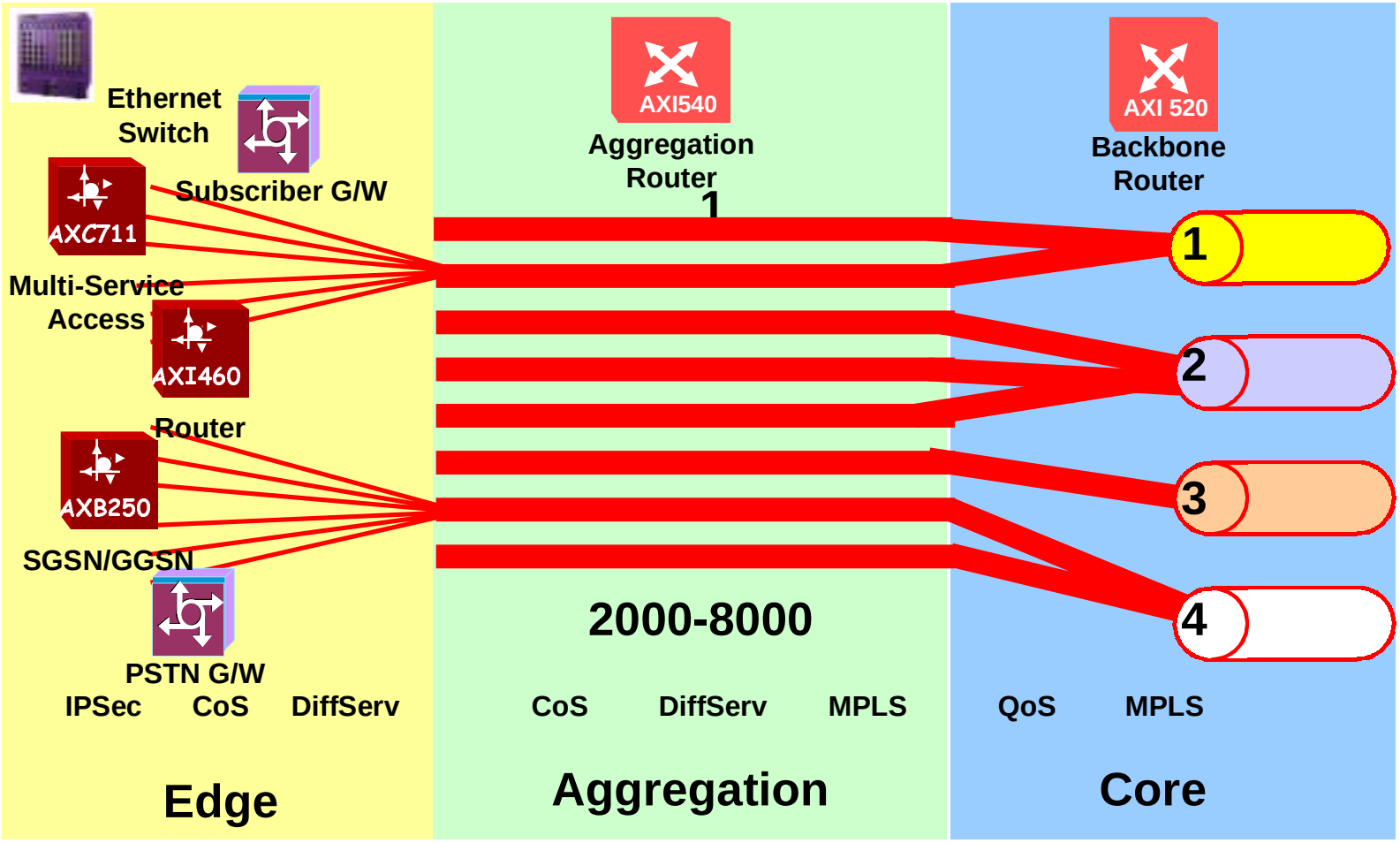
IP Telephony could be the "killer" app that forces carriers into QoS…

"You can't just over-provision your way out of trouble by throwing bandwidth at the problem. You end up with some dropped packets."
David Passmore, NetReference

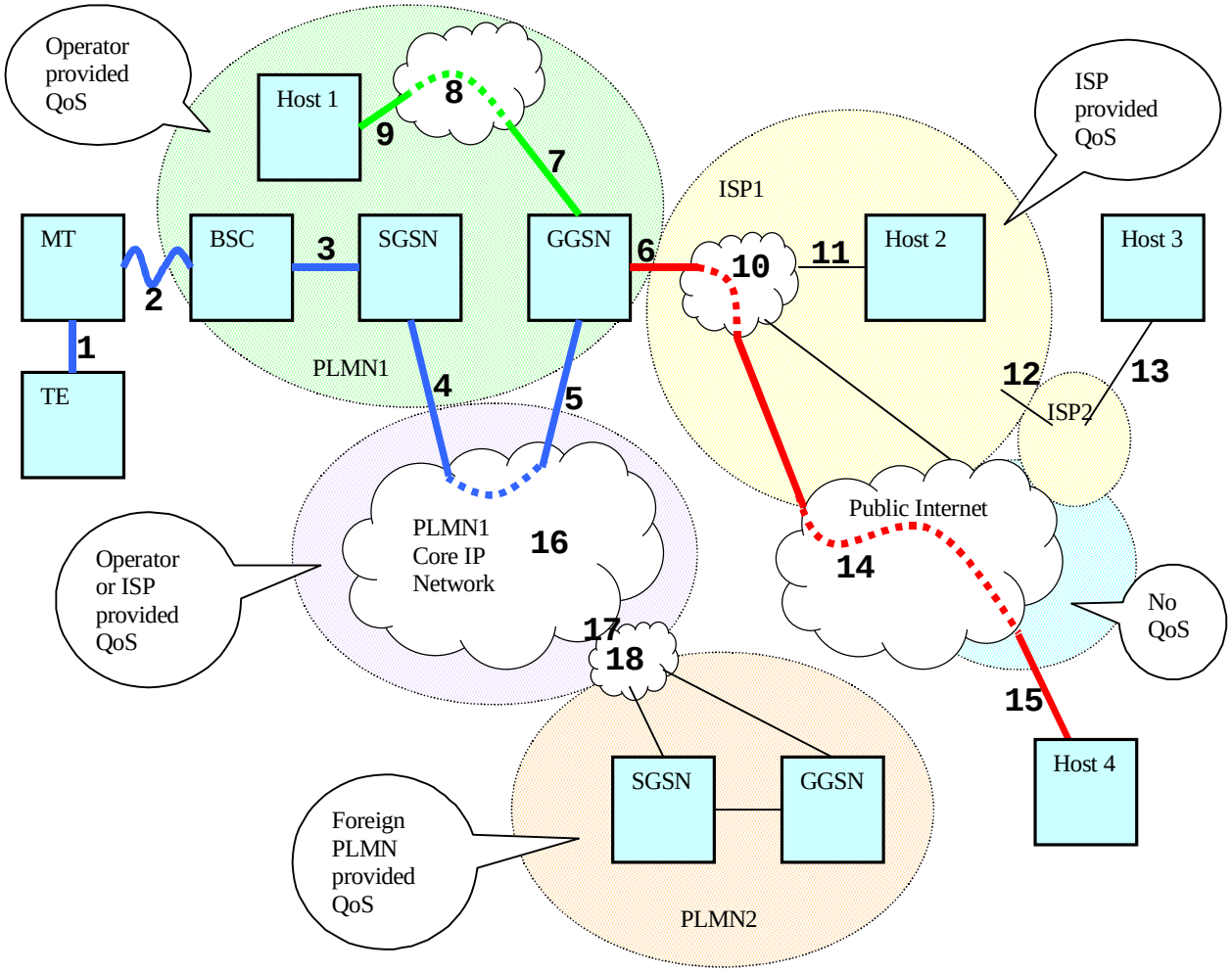
Overlay networks for GPRS all-IP Solution



Traffic Engineering

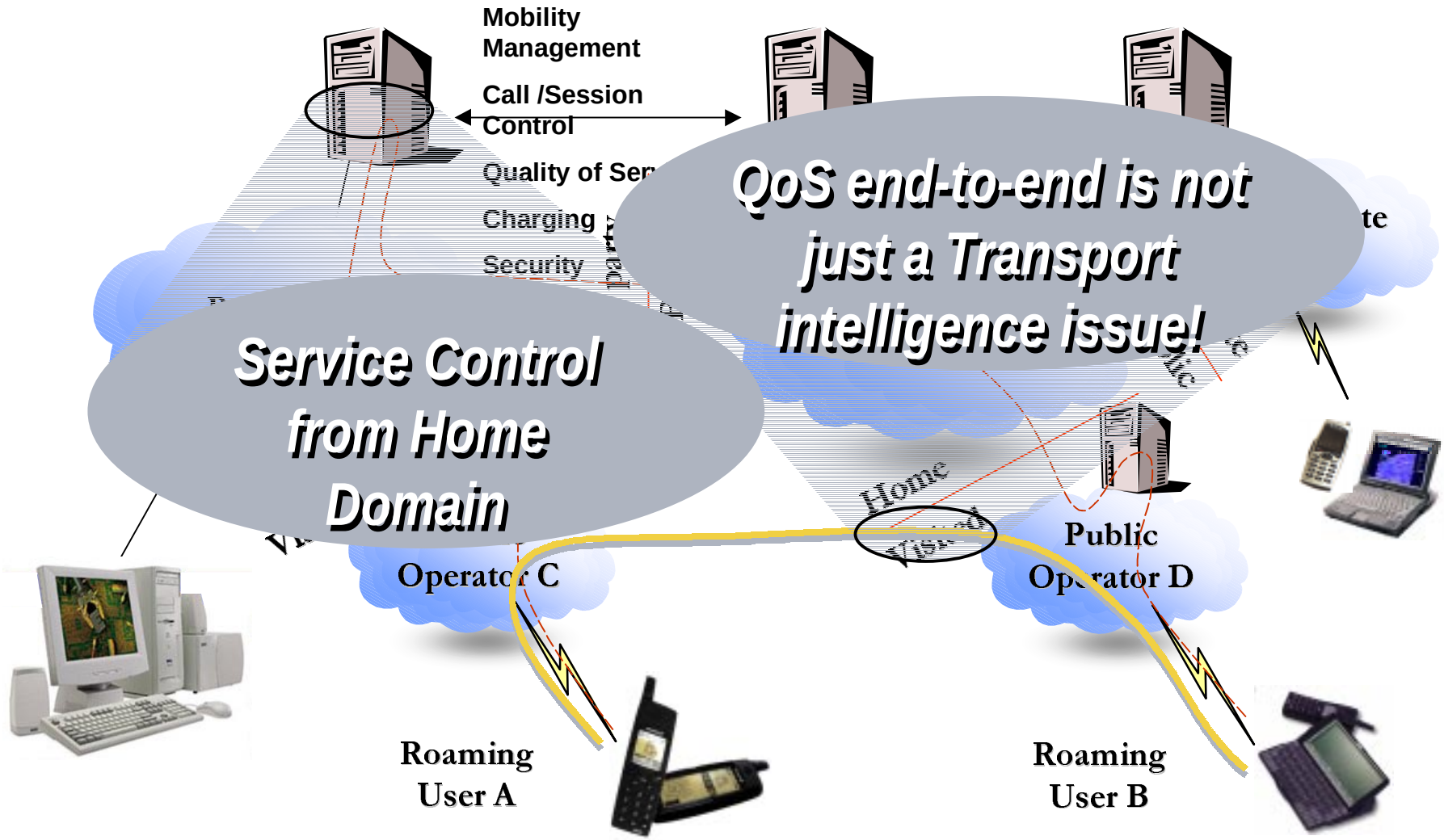


Real-Time IP - Distributed QoS Responsibility



- Operator controls only own administered network
- User judges perceived end-to-end QoS
- Standardized QoS mechanisms
- SLAs between operators
- Require knowledge of QoS both within AS & end-to-end

Scope of an “all IP” architecture



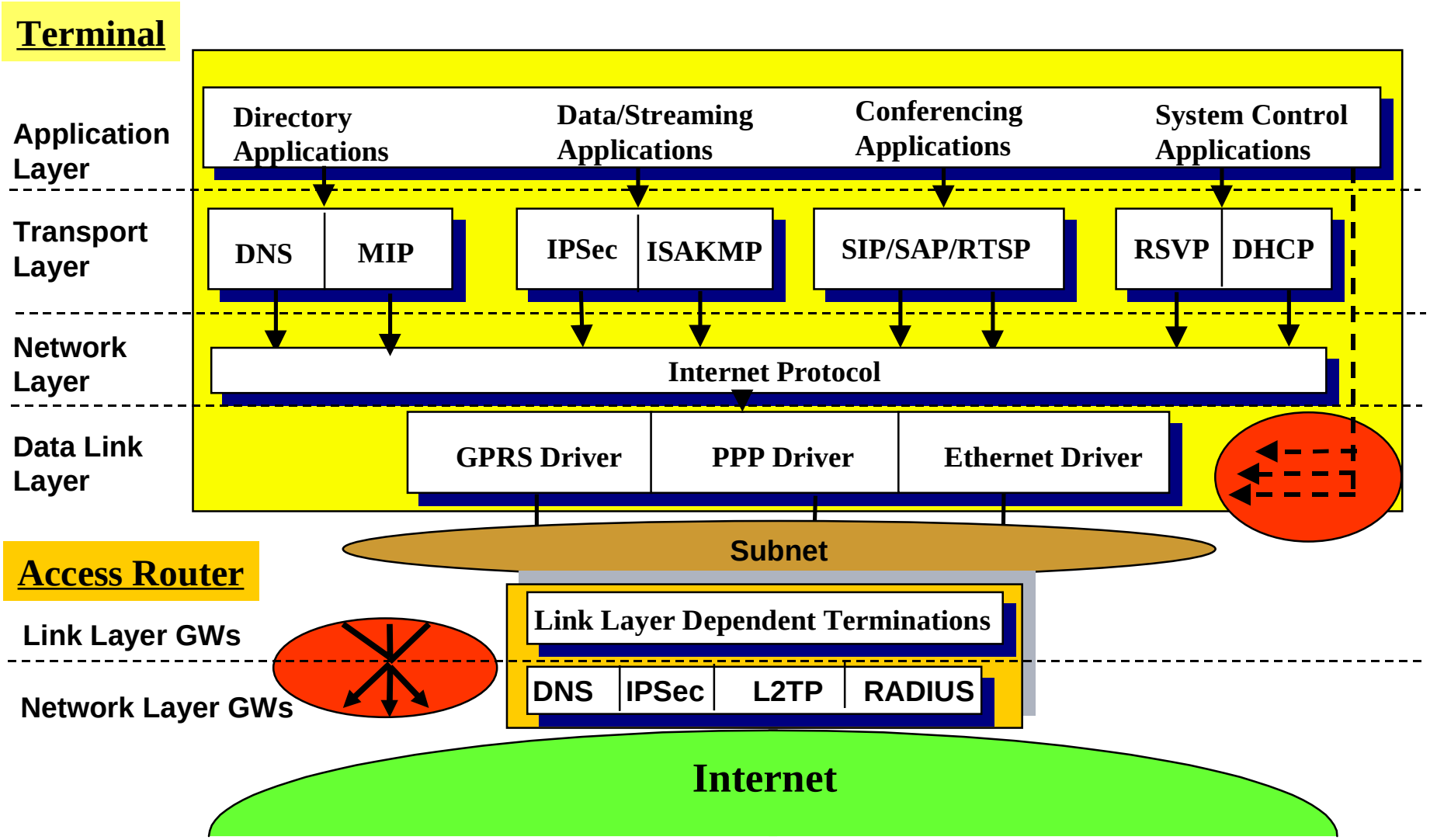
3G Begins with the Terminal

- Feature phones
- Small computers and mobile phones
- PDA’s and mobile phones
- Smart phones
- Voice-centric mobile phones

Mobile Internet Information Services

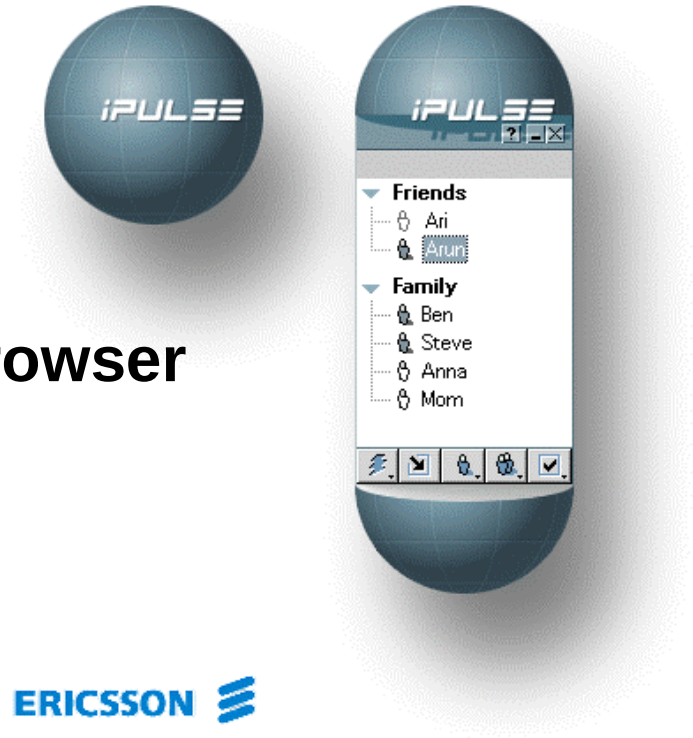
- Mobile E-Mail
- Telephony
- Messaging
- News, weather, sports
- Traffic information
- Directory services
- Time tables
- Location dependant information services
- E-commerce

Applications Set-up at the Terminal

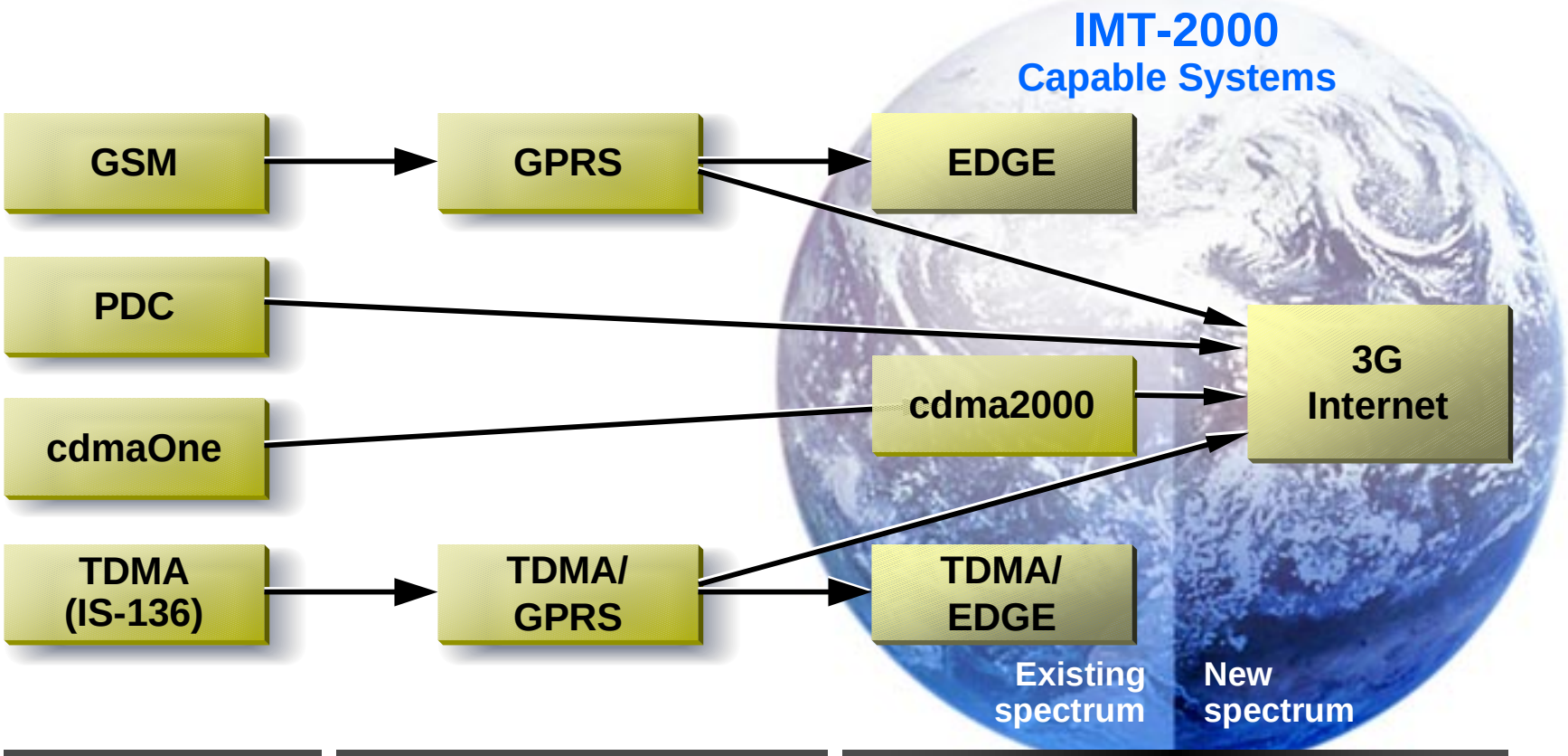


Mobile Office - “The Virtual Enterprise”

- Internet communications portal - iPulse
- Voice - Voice recognition
- Voice services, V-Mail
- Messaging - SMS, E-mail
- Internet access/WAP-microbrowser (Info, Web-access)
- Home network extension
- Corporate Intranet access
- Calendar/organizer



Evolution to IMT-2000/3G Internet



Today 2G	2000 evolved 2G	3G	
19.2 kbps	64–115 kbps	115–384 kbps	0.384–2 mbps

Summary

- It's not all about "bandwidth" - primarily 3G adds capacity!
- It's not all about "all IP" - from a conversational service perspective it's about migration, migration, migration!
- The 3G architecture enables Horizontal Service Integration!!!
  - Convergence on application level - distribution over open API's
  - Scalability & cost efficiency - integrated Service Network
  - ISP/Portal - the future centre point of customer ownership
  - Service roaming / IP end-to-end - standardised intelligence above the bit-pipe