

# Vision for Mobile Networks



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# Vision for Mobile Evolution

- **Mobile domination**
  - Absolutely for voice services
  - Also for time-critical, personalized, location-sensitive (i.e. high-value) services

# Vision for Mobile Evolution

- Mobile domination
- **Second coming of Internet will be based on Mobile**
  - 80% of Internet appliances will be mobile devices by 2004
  - That's about 900 Million mobile devices, dwarfing the fixed Internet access

# Vision for Mobile Evolution

- Mobile domination
- Second coming of Internet will be based on Mobile
- **A hand-held device that combines WAP, Java, MeXe, GPRS, packet, IP, GPS, Bluetooth, Smart-card, etc**
  - Device limitation being overcome through new technologies
  - For remaining limitation, network-based solutions will be available

# Vision for Mobile Evolution

- Mobile domination
- Second coming of Internet will be based on Mobile
- A hand-held device that combines WAP, Java, MeXe, GPRS, packet, IP, GPS, Bluetooth, Smart-card, etc
- **From (always-on / anywhere) To (between anything / everything)**
  - communication between any (limited!) intelligent entities
  - Devices, networks, systems to accommodate such explosion

Always-on →

Between Anything / Everything

# Vision for Mobile Evolution (Cont'd)

- **Mobile penetration**
  - exceeding 100%, multiple devices per person, and all sorts of new entities communicating

# Vision for Mobile Evolution (Cont'd)

- Mobile penetration
- **Mobile applications**
  - all types, but mostly low to medium bandwidth requirements
  - Audio, vision, auto-based, location-based applications
  - Mobile driven, mobile aware applications, e.g. m-commerce

# Vision for Mobile Evolution (Cont'd)

- Mobile penetration
- Mobile applications
- **Seamless Applications**
  - **Near-term: Local area wireless (e.g. tetherless) and wide area wireless, e.g. Bluetooth / WLAN and Cellular networks**
  - **Longer-term: Fixed & mobile seamless applications**

# Vision for Mobile Evolution (Cont'd)

- Mobile penetration
- Mobile applications
- Seamless Applications
- **Addressing & numbering**
  - We need IP addresses for everything, dynamic and/or static (500M IP addresses for mobile by 2004)
  - IPv6 is essential IP technology for the growth of mobile communication

**3G + IPv6** → **Mobile Information Society**

# BT's Goals: Why do we need IP?

- **Deliver high-value, high-margin mobile multimedia services**
  - IP is the protocol of choice for application developers
- **Faster time to market for new services**
  - tap into internet innovation life cycle
- **Major cost reduction**
  - use IP technology widely to replace expensive CS infrastructure

**IP enables Mobile Operators to ride on  
Cost Curve and Innovation Cycle**

# BT's Goals - When do we need IP?

- **IP architecture needed in 3GPP Release 2000 to get implemented by 2003/4**
  - limit further investment in circuit-switch technology
  - enable new IP-based multimedia applications as early as possible
  - avoid large population of non-IP terminals

**3GPP Release 2000 needs to include as much IP technology as possible**

# BT's Roadmap for Mobile Networks

## 1. Early launch

- Based on 3GPP Release 99
- Leverage current GSM/GPRS networks,
- Transport (IP & ATM) opportunity.

## 2. Evolve to All-IP Foundation

- Based on 3GPP Release 2000
- Real time services over PS & IP based call control
- Confine MSC deployment & minimise CS investment.

## 3. Aim for 'All-IP' beyond Release 2000

- Refine IP infrastructure, add value & new services
- Specialised routers for mobility
- Harmonise Multimedia over IP for wired & wireless

**Evolve to All-IP architecture**