Mobile Wireless working Group
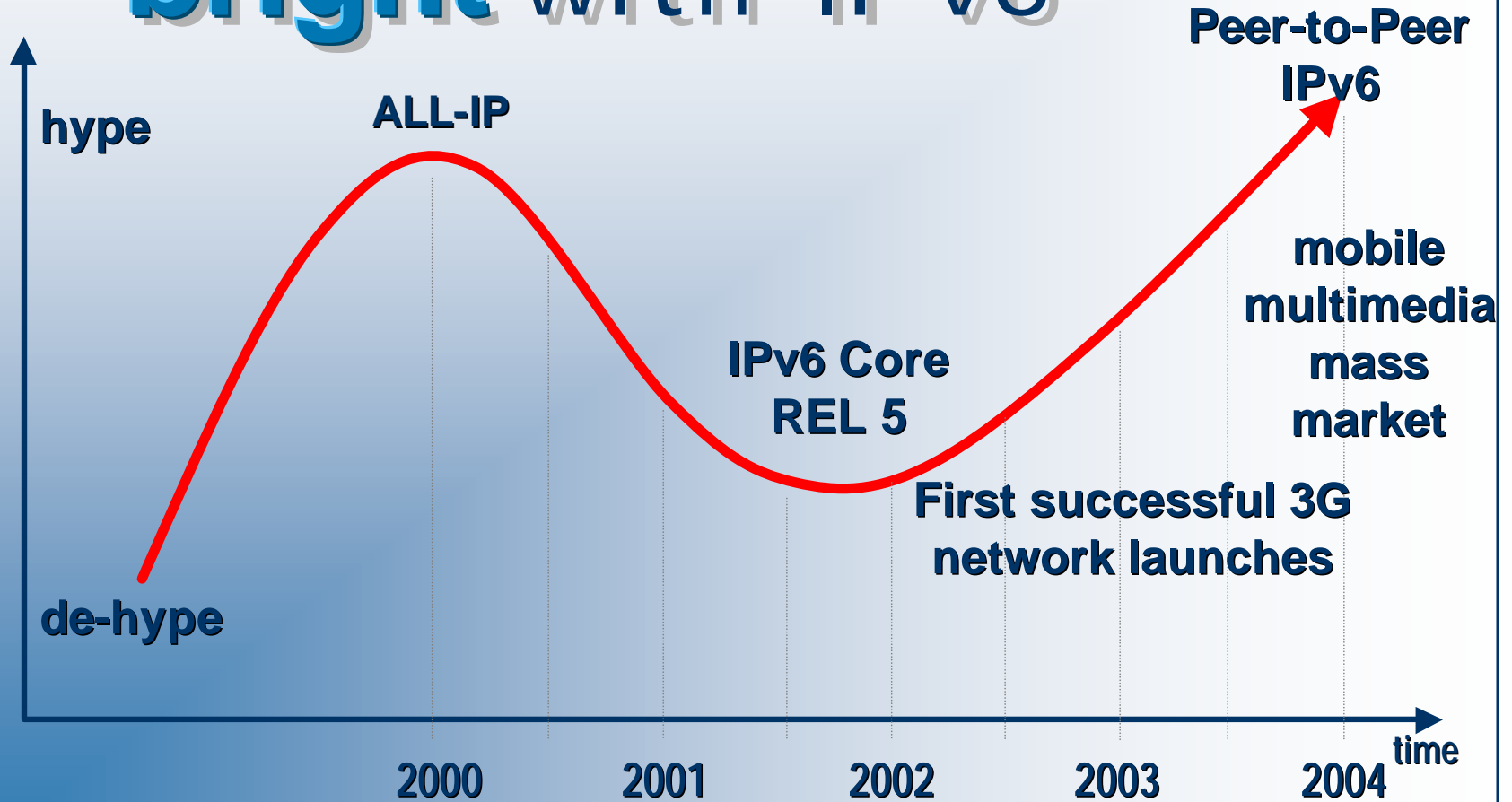
Bosco Eduardo Fernandes
VP Siemens Ag,
UMTSF CHAIRMAN ICT GROUP
(IT Media, Applications & Content)
IPv6TF CHAIRMAN MWWG
e-mail:bosco.fernandes@icn.siemens.de

The future of 3G is bright with IPv6

hype

ALL-IP

Peer-to-Peer IPv6

IPv6 Core REL 5

mobile multimedia mass market

First successful 3G network launches

de-hype

time

2000   2001   2002   2003   2004

COMMON AGREEMENT

- In the initial phase of GPRS/UMTS with a few millions of terminals, IPv4 is a perfectly reasonable solution, but to offer a scalable service that will cater for 10s of millions of terminals, IPv6 is an imperative.

- There are sever problems and limitations with band-aids i.e. NATs, and although these are valuable in the near term, utimately they will limit connectivity, interoperability, and performance in enterprises.

COMMON AGREEMENT

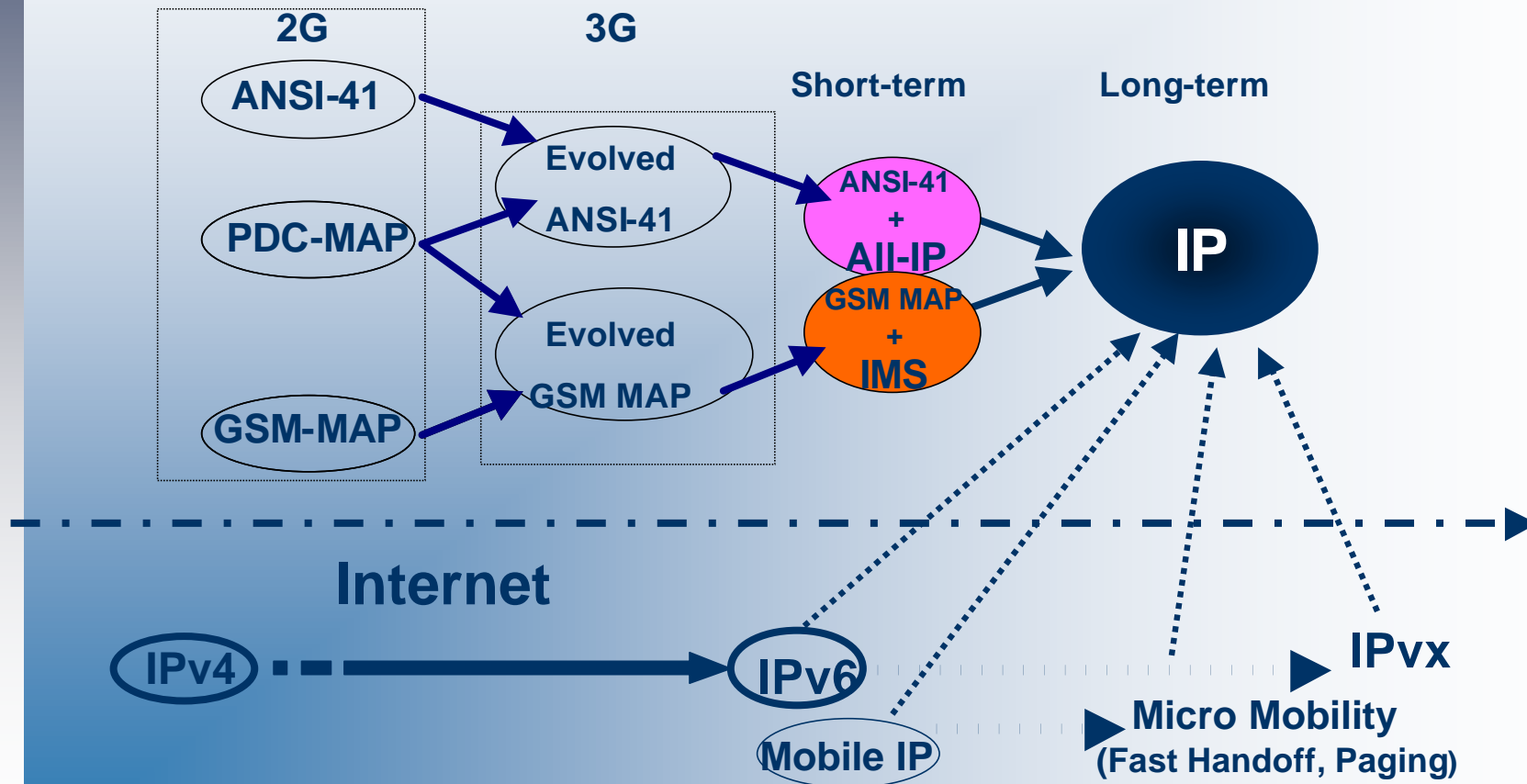New service opportunities and customer benefits

- -Operational benefits, including network efficiency;

- -Cost Effectiveness (i.e. potential reduction of future operating costs)

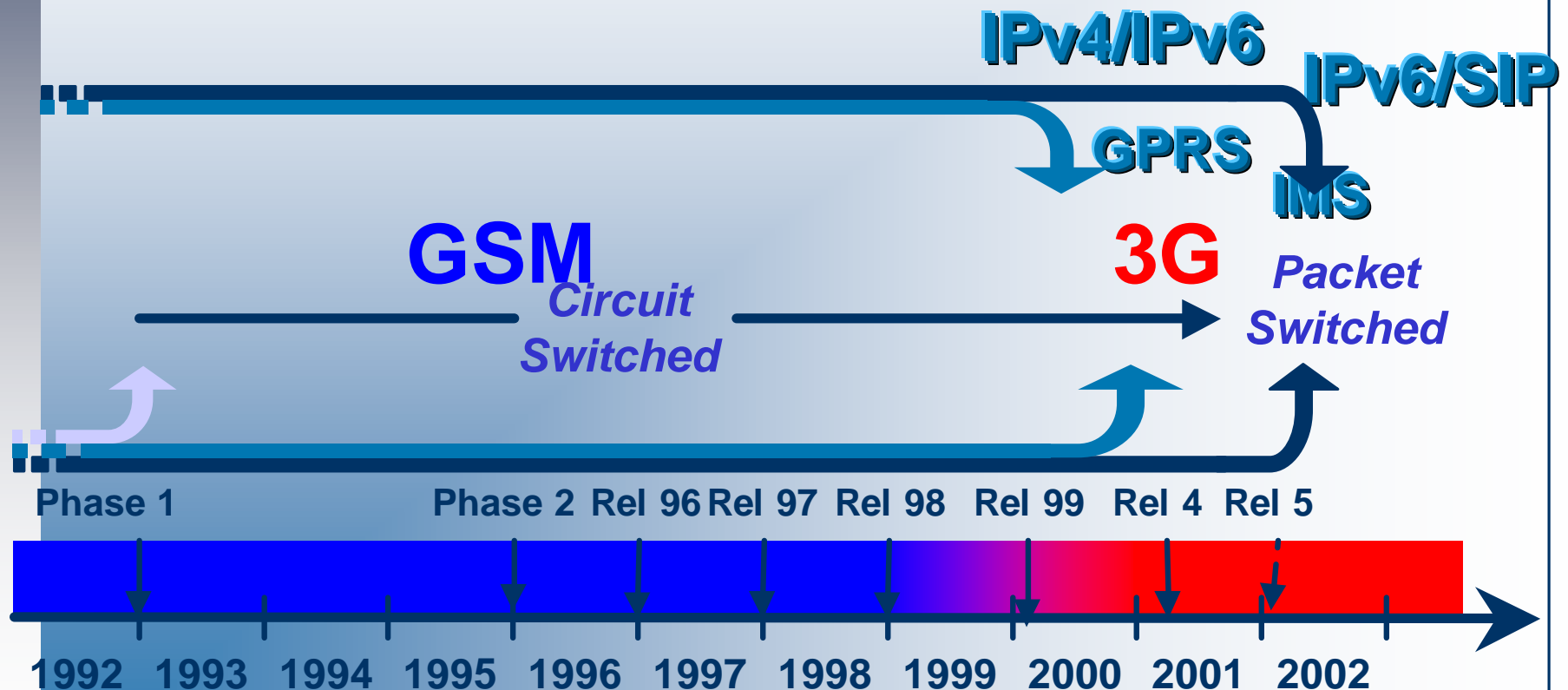- -Minimising industry-wide disruption

''What is ALL-IP???,
„WHAT IS IMS???'',

???

Evolution towards All-IP

2G

3G

ANSI-41

PDC-MAP

GSM-MAP

Evolved ANSI-41

Evolved GSM MAP

Short-term

ANSI-41 + All-IP

GSM MAP + IMS

Long-term

IP

Internet

IPv4

IPv6

Mobile IP

IPvx

Micro Mobility
(Fast Handoff, Paging)

Roadmap

IPv6 Draft RFC/ 3GPP capabilities

IPv4/IPv6

IPv6/SIP

GPRS

IMS

GSM

3G

Circuit Switched

Packet Switched

Phase 1　　　　Phase 2　Rel 96　Rel 97　Rel 98　Rel 99　Rel 4　Rel 5

1992　1993　1994　1995　1996　1997　1998　1999　2000　2001　2002

What does the future hold?

- **IP-based Multimedia Subsystem (IMS) handling of multimedia services using SIP (Session Initiation Protocol) signalling and the bearers offered by the PS domain. (Note: dependant on availability of IETF RFCs. IMS security will not be available until June 2002).**

„The nice thing about standards is That there are so many to choose from"

Today in multimedia rather than choosing one, one uses all of them together

WIRELESS INTERNET

- **Anytime**

  -**"Always on" operation requires unique addresses for every mobile device; IPv4 is already nearing exhaustion**

- **Anywhere**

  –**Seamless mobility is needed, along with location privacy and security**

  IPv6 simplifies challenges

WIRELESS INTERNET

- **Access-independent**
  -Efficient transport across wireless links and effective QOS is essential

- **Application-friendly**
  -Access to the public Internet and IP-based services from a wide variety of terminal devices enables new revenue streams

- **Affordable**
  -"Off the shelf" components, simplified user management, and easy upgrades make this technology economically viable

Numbers & Numbering and Names

- **Addressing and naming becomes easier for operators**

  No need for messy and non-scalable workarounds like

  Schemes based on NAT and IPv4/IPv6 mapping.

International Numbering

Calling line Identification

Directories

Business use of Numbers

Personal numbering and
Universal telephony

INTERNET PROTOCOL ADDRESSING

SIMPLIFY YOUR LIFE

Recommendations

- Recommendations to EU Member States Governments

- Recommendations to the Commission

- General Recommendations to the Industry at large

Recommendations

- IPv4 and IPv6 will coexistence for many-many years before IPv4 will be soft and gradually Phased out.

- No magic date imposed on anyone to move to IPv6, there will be an incentive to move before it becomes too late and expensive.

IPv4

3G IMS
IPv6

Recommendations

- Europe needs to strenghten it's key position in the Mobile Industry.

  With the Asian industry already investing millions of US dollars in IPv6 enabled consumer appliances, Wireless devices and in other industry sectors, Europe needs to do the same.

- Besides, IPv6 in it's wide expected deployement, is not limited to fixed core networks, wireless and cellular systems ONLY.

Recommendations

- **For IPv6-enabled services to be deployed in a timely manner -consolidate and integrate European efforts on IPv6 .**

- **The Industry should contribute towards the acceleration and alignment of on-going IPv6 work within standards and specifications bodies.**

Recommendations

- THE EUROPEAN COMMISSION SHOULD Initiate a discussion of IPv6 policy matters at European LEVEL AND ASSIST AND ENCOURAGE THE WIDE SPREAD DEPLOYMENT of Ipv6 IN A TIMELY MANNER.
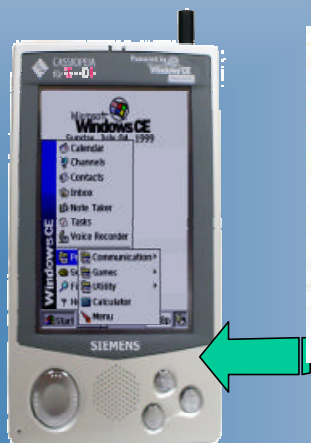- ITU COULD ASSIST IN supporting A global strategic action plan.

Applications and Tool kits

- **Some Vendors are fully integrating IPv6 in their OS!**

  Europe needs to encourage more SME's and SW Developers TO BE INVOLVED IN IPv6 APPLICATIONS!

IP in Devices

PDA / Phone

Conclusion (1)

- The work of the IPv6TF identifies A number of issues and key findings.

- IPv6TF SUMMARZiES ON A HIGH LEVEL A WAY FORWARD AND PRESENTS RECOMMENDATIONs FOR A NUMBER OF INDUSTRY SECTORS.

Europe needs IPv6 Fast

Conclusion (2)

- MORE DETAILLED WORK IN A GIVEN TIME FRAME IS NEEDED.

- Recommendations made TO BE ELLABORATED IN INDIVIDUAL WORKPLANS.

Europe needs IPv6 Fast