Seminar Conclusions

3.2: Conclusions and Closing Remarks

ITU-T Workshop on "Mobile Telecommunications and Fixed/Mobile Convergence – the realities going forward"

Kyiv, Ukraine   12-14 September 2005

John Visser, P.Eng.
Chairman, ITU-T SG 19
Phone: +1-613-763-7028
Fax: +1-613-765-6257
Mobile: +1-613-276-6096
Email: jvisser@nortel.com

Introduction

- **This presentation, prepared in real time to reflect the key points in the presentations (~744 slides!) and discussions, aims to provide a summary of the workshop and to provide an aid to more in depth review of the material contributed.**

Quotations

- **"The only that isn't changing is the fact that everything keeps changing!" ***

- **"We always over-estimate the change that will occur in the next two years, and underestimate the change that will occur in the next ten years." ****

> *** *John Visser, Chairman, ITU-T SG 19*
> **** *Bill Gates, Chairman, Microsoft Corporation*

Key Messages

- **"Next Generation Users" (today's young people) are the target market for tomorrow: high expectations!**
- **Essential convergence: systems beyond IMT-2000 (SBI2K) and NGN:**
  - **Standards efforts focussed on making vision a reality**
  - **IP-based access independent core network**
  - **IMS a core part of architecture**
  - **Essential alignment from a network perspective between the long term objectives of NGN and SBI2K; FMC an important aspect of both**
  - **Increasing recognition of IPv6 as an essential element moving forward**
- **Strong industry alignment of visions, perspectives**

Session 1.1: Opening

1.1.1 Welcome Address

- **Vasyl Gandabura** (Deputy to the Minister of Transport and Communications, Administration of the Ukraine)
  - Warm welcome to delegates
  - nnn

1.1.2 Welcome Address

- **Oleg Hayduk** (Chairman of Ukrainian National Commission for Communications Regulation)
  - Warm welcome to delegates
  - nnn

Session 1.1: Opening

1.1.3   Keynote Address

- **Reinhard Scholl** (Deputy TSB Director)
  - Warm welcome to delegates on behalf of TSB Director
  - Emphasized importance of NGN standards progress

1.1.4   ITU Standardization Activities in the New Telecommunication Environment

- **Paolo Rosa** (TSB)
  - Standards enable long term market returns
  - Global standards build on regional standards
  - ITU-T process, working methods, process, speed
  - ITU-T support to DC/CET
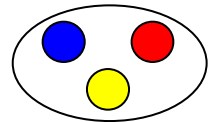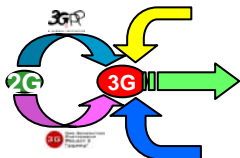   - Build the information Society
    - "Connect the World"; Lighthouse

Session 1.2: ITU Framework

**1.2.1 ITU-T: Activities on Mobile Communications Networks**

- **John Visser** (ITU-T SG 19 Chairman)
  - Historical perspective: WP 3/11, SSG, SG 19
  - Mandates & activities, anticipated future directions
  - Key work areas: systems, mobility and FMC

1.2.2 ITU-D: Guidelines for Smooth Transition to IMT-2000

- **Bosco Fernandes** (Siemens AG)
  - Mid Term Guidelines for Smooth Transition from Existing Mobile Networks to IMT-2000
  - Did ITU-D Q.18/2 achieve its targets? YES!
   - Economic impacts, migration techniques, possible use of 1G, 2G spectrum, market trends
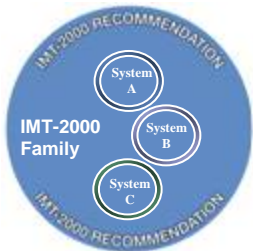
Session 1.2: ITU Framework

1.2.3 ITU-R: Mobile convergence issues

- **Colin Langtry** (ITU-R; presented by <u>John Visser</u>)
  - Highlighted process for identifying and allocating spectrum
    - IMT-2000 is being implemented and deployed, will evolve over next 10-15 years

      Mobile, Internet and broadband access growing rapidly

      Convergence is occurring in many spheres

      New radio interfaces required around 2010-2015

      Spectrum aspects will be considered at WRC-07
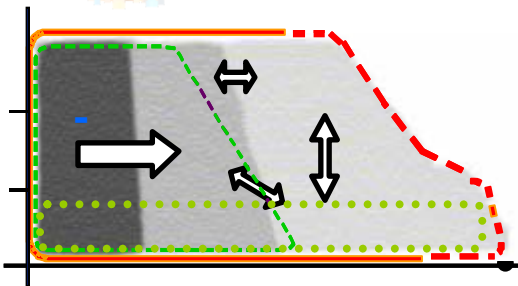
Session 1.3: International Standardization Framework

1.3.1 ETSI: A European Standards Organization Setting International Standards

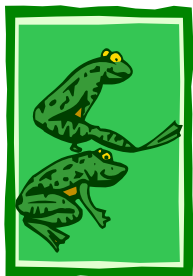- **Adrian Scrase** (ETSI)
  - ETSI's role, structure, position in standards development
  - All standards free for download
  - ITU: ETSI's global partner of choice

1.3.2 ETSI: Technical and Economic Drivers for Convergence

- **Adrian Scrase** (ETSI)
  - Convergence is inevitable: mass market essential
  - Aim for planned convergence, not unplanned collision
  - SIP-based IMS: "heart" of all systems: mobile and fixed
  - Do nothing? No! Influence standards NOW !

Session 1.3: International Standardization Framework

1.3.3 ETSI: Progress in Developing Fixed/Mobile Standards

- **Adrian Scrase** (ETSI)
  - Essential content of Rel. 99, 4, 5, 6, 7
    - Rel. 5: IMS - IP-based Multimedia Services with all core network elements for multimedia services
  - Long term evolution from current situation
    - Increasing data rates, coverage, service capabilities
  - TISPAN addressing NGN: activities, progress
    - Strong industry demand: new MM services; replace PSTN
    - Fixed & mobile convergence: IMS
    - Collaboration with 3GPP (fixed access to IMS), ITU-T NGN Focus Group, other SDOs

Session 1.4: International Fora/Consortia Framework

1.4.1 3G Association: Convergence of Mobile and Wireless Broadband Networks - The Key Factor in New Generation Services Market Development

- **Andrei Skorodumov** (Russian 3G Association)
  - Convergence of mobile and BWA: necessary part of new generation services market development
  - Regulation should support fair market competition, support innovation, involvement in international info. community.

1.4.2 European Union IPv6 Task Force

- **Bosco Fernandes** (Coordinator, EUIPv6TF Steering Committee)
  - IPv6 will be part of the future
  - More compelling in South Asia, but rapid adoption
  - Potential issues in openness/privacy/traceability/security

Session 1.4: International Fora/Consortia Framework

1.4.3 IPv6 Forum: The Two-Way Internet

- **Bosco Fernandes (**Member, IPv6 Technical Committee)
  - IPv6 a major step in the Internet's ability to scale and support new applications
  - SIP: the most successful protocol
    - SIP-based VoIP will be a key Internet application
    - SIP with IPv6 will offer peer-to-peer two way comms.
  - Characteristics: simplicity, modularity, extensibility
  - Two way INTERNET is on it's way!!!!

Session 2.1: Converged Networks

2.1.1 Fixed Network Evolution to NGN, Fixed Mobile Convergence

- **James Cheng** (Huawei)
  - Network trends: circuit to packet; can replace PSTN now: NGN reduces OPEX/CAPEX
  - PSTN migration mode: replace, evolve, hybrid
  - Migration to FMC
  - "Technology Changes, Communication Lasts"

2.1.2 Evolution Strategy Towards NGN

SIEMENS

- **Vladyslav Mamedov** (Siemens, Ukraine)
  - Early promises: VoIP = ultimate cost saver
  - NGN realities: protect existing infrastructure investment
  - Vision: all IP-based NGN with products to do it

Session 2.1: Converged Networks

2.1.3　ITU-T Activities on NGN Architecture and Issues

- **Brian Moore** (ITU-T SG 13 Chairman, presented by <u>John Visser</u>)
  - Establishing the FG NGN
  - Key Study Groups 11, 13, 19: coordinate through JCA
  - Involve other SGs, external SDOs
  - Transition into regular SGs: maintain momentum
- **Chae-Sub Lee** (FG-NGN Chairman, presented by <u>John Visser</u>)
  - Overview of FG NGN structure, release planning, structured deliverables
  - Significant participation (>140), inputs (>1000)
  - Extensive collaboration
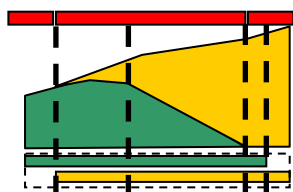 - NGN Management Focus Group (NGNMFG)
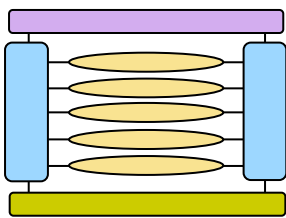
Session 2.2: Operator and Regulator Perspectives

- **2.2.2 Evolution, the Way to 3G**
  - **Qiqing Gang** (Huawei)
    - IMS: future-oriented network, deploy step by step:
      - 2G and 3G convergence
   - Easy migration
      - Lower CAPEX & OPEX

- **2.2.3 Migration to IMT-2000 in Developing Countries: Policies and Market Reaction**
 - **Sudhir Gupta** (TRAI, India)
    - India experience: critical price point stimulates rapid growth!
    - Not necessary to debate whether to do 3G IMT-2000
    - Make spectrum available, let market decide
    - Rational spectrum charging: increased internet and broadband penetration
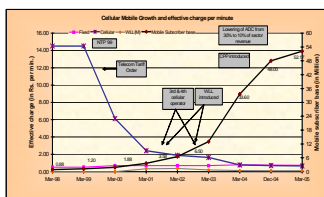
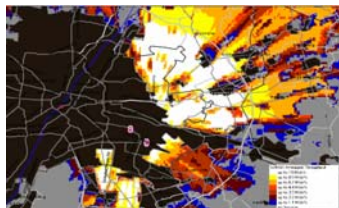# Session 2.3: Case Studies: Mobile NWs in a FMC World

2.3.1 Converged Services Framework in an NGN Environment
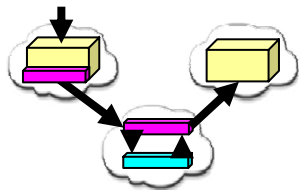
- **Patrick Smith** (Motorola, USA)
  - FMC requires global and regional standardization
  - Must consider costs and effect on legacy equipment
  - ITU-T will specify a range of options for graceful migration to advanced services and FMC

2.3.2 Case Study: WiMAX

- **Udo Schick (**T-Systems, Germany)
  - Plan: design, rollout, vendor selection
  - Build: engineering, tools
  - Run: integration, improvement
  - Services: develop, deploy, manage
  - Tool demo

Session 2.3: Case Studies: Mobile NWs in a FMC World

2.3.3 Case Study: Unified Licensing Regime in India

- **Sudhir Gupta** (TRAI, India)
  - Convergence forcing industry realignment
    - Technologists can't foresee impacts
    - Regulators: do not get in the way of market forces
  - Rural-urban teledensity gap widening:
    - Mobile phones an effective response to digital divide
    - Technology and service neutral licensing encourages competition, accommodates convergence
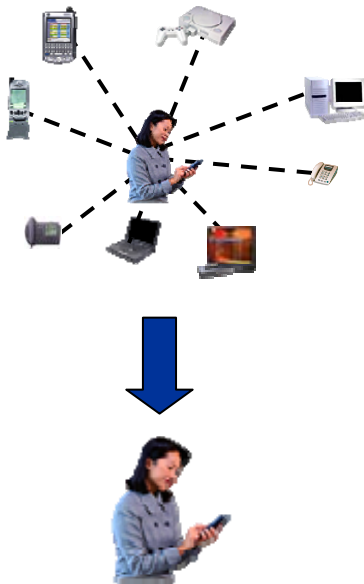
Session 2.4: Leveraging the value of mobility

2.4.1 Mobile Network Evolution to NGN

- **John Visser** (Nortel, Canada)
  - Network transformation, convergence essential to simplifying, enhancing the user experience, and is driven by demand
  - Mobility is an integral capability of NGN
  - Services, and therefore the network, must be "anytime, anywhere, in any form; secure, trusted, reliable"
  - Self-service, intuitive/simple for the end user, a key factor
  - Discussion: "latest and greatest" very attractive but must also look at what one can afford while looking forward
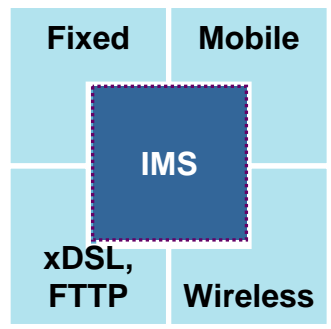
Session 2.4: Leveraging the value of mobility

2.4.2 Operator Benefits with a Mobile NGN Architecture

- **Jan Fischle** (Alcatel)
  - Standards-based, centralized call server, distributed media gateways:
    - Simplified operations, less cost to run, to expand network and capacity
    - Enable introduction of IP-based services
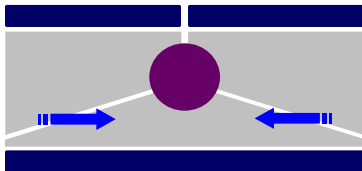   - Enable evolution to 3G, All-IP and IMS target

Fixed	Mobile
xDSL, FTTP	Wireless

IMS

Session 2.4: Leveraging the value of mobility

2.4.3 Making Fixed/Mobile Convergence Work – A Project Approach

- **Detlef Zaun** (Avendi Consulting, Germany)
  - Combined approach: top down & bottom up
  - Clearly define business goals, roles, responsibilities
  - Common customer database: treat fixed, mobile same
  - Aim for some small early successes
    - Mobile operators: implement 3G-services first
    - Wireline operators: decouple access from location

Session 3.1: Market Perspectives

3.1.1 Prospects for UMTS systems implementation in Ukraine

- **Volodymyr Oliynyk** (Member of the National Commission for Communications Regulation of Ukraine)
  - Dramatic growth in number of mobile subscribers and range of services available from five operators
  - Reviewed frequency allocations, issues to resolve & enable continuing rapid advancement of telecoms in the Ukraine

3.1.2 Evolution of Existing Mobile Systems to IMT-2000 and Beyond

- **Mikhail Krylov** (QUALCOMM, Russia)
  - Can now achieve true Fixed/Mobile Convergence through:
    - Improved spectrum efficiency in 3G
    - Common Core Network (IMS/MMD)
    - Improved devices: multimedia & WLAN Integration

Session 3.1: Market Perspectives

3.1.3 Unlicensed Mobile Access as an Example for Fixed Mobile Convergence

- **Jan Fischle** (Alcatel)
  - Users want to go fully mobile; issues: cost, coverage, quality
  - W- & W+ operators: keep customers - provide services on handsets with integrated access capability; hide complexity

3.1.4 Meeting UNICT Open Telecommunications Access Goals Using SWANsat

- **William Welty** (SWANsat Project, USA)
  - SWANSat: set of geosynchronous satellites to provide global BB solution for developing countries, esp. remote underserved nations
  - Distinctive aspect: shareware model for pricing (non-profit!)

Additional resource material

- **Appendix provides some additional references of interest:**
  - **Material on ITU web site**
  - **Material on non-ITU web sites***

> *** N.B.: These are provided for convenience only. For non-ITU references, being listed here does NOT indicate ITU endorsement.**

Session 3.2: Panel Discussion

What are the realities going forward?

- How do you think SBI2K and NGN standards development will unfold? What do you see as the roles of the SDOs and fora active in the area, and how might these evolve?

- How will legacy networks evolve to NGN?

- What can we learn from NGN "early adopters"?

- What real new services and capabilities can we expect to see deployed in the near term?

- What are the main impediments to realizing the NGN vision? How can they be overcome?

Appendix: Some Additional Resources (1/3)
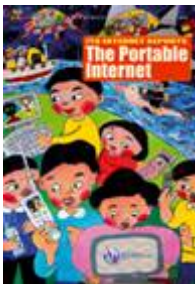
- **For supporting Developing Countries, SG 19's action plan includes:**
  - Implementation of ITU-T Recommendations
    1. How to use ITU-T Recs., what are their relationships
    2. Support BDT: applying ITU-T Recs. (Annex to Res. 44)
  - Action: create a SG 19 discussion forum where DC-CET representatives can **submit their questions:**
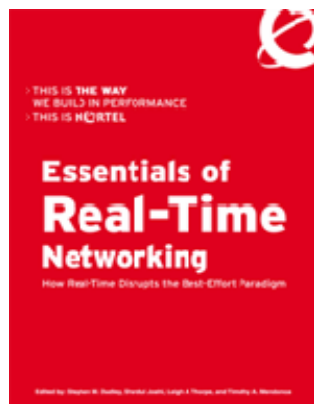   - **http://forum.itu.int/jive/index.jspa?categoryID=157**
- **ITU-SPU reports**
  - 2002 Report: **"Internet for a Mobile Generation"**
    - **www.itu.int/osg/spu/publications/sales/mobileinternet**
  - 2004 Report: **"The Portable internet"**
    - **http://www.itu.int/osg/spu/publications/portableinternet/**

Appendix: Some Additional Resources * (2/3)

- **Nortel's "Essentials of Real Time Networking":**
  http://www130.nortelnetworks.com/cgi-bin/eserv/cs/main.jsp?BV_SessionID=@@@@0449629309.1115789159@@@@&BV_EngineID=gadddhfhejghbhkcginchgcgjg.0&cscat=DOCDETAIL&DocumentOID=292677&searched="real%20time%20networking

- **Shosteck free white papers: www.shosteck.com**
  - **1 of several: "Lessons From Metricom and MobileStar: Success Factors for the Portable Internet Access Market"**

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Appendix: Some Additional Resources * (3/3)

Some web sites with resource material for Regulators:

ITU:	www.itu.int
European Commission:	
	www.europa.eu.int
Australia:	www.aca.gov.au
Bahrain:	www.tra.org.bh
Brazil:	www.anatel.gov.br
Equador:	www.conatel.gov.ec
Guernsey:	www.regutil.gg
India:	www.trai.gov.in
Ireland:	www.comreg.ie
Jordan:	www.trc.gov.jo
Kenya:	www.cck.go.ke
Lesotho:	www.lta.org.ls
Macau:	www.gdtti.gov.mo
Malaysia:	www.mcmc.gov.my

Macau:	www.gdtti.gov.mo
Malaysia:	www.mcmc.gov.my
Mauritius:	www.icta.mu
Nicaragua:	www.telcor.gob.ni
Nigeria:	www.ncc.gov.ng
Panama:	
	www.enteregulador.gob.pa
Singapore:	www.ida.gov.sg

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Thank you!