Seminar Feedback and Conclusions

3.4.2: Conclusions and Closing Remarks

Regional Workshop for the Arab Region on Guidelines on the Smooth Transition of Existing Mobile Networks to IMT-2000 for Developing Countries

Damascus, Syria 13-15 June 2005

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Introduction

- **This presentation, prepared in real time to reflect the key points in the presentations (٨٥٤ slides!), and the Q&A and discussion, aims to provide a summary of the workshop and to provide an aid to more in depth review of the material contributed.**

- **"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 and Discussion Points

- **"Next Generation Users" (today's young people) are the target market for tomorrow: high expectations!**
- **IMT-2000 offers a viable and effective means to bridge the Digital Divide**
- **MTGs will assist in decisions regarding IMT-2000**
- **Build on the experience of others:**
  - **Tailor your decision processes to your market and to your local regulatory and economic situation**
  - **Regulators: be flexible, forward looking to stimulate investment, growth, while ensuring social needs are met**
- **Your solution should be "made to measure" rather than "one size fits all"**

Session 1.1: Opening

1.1.1 Welcome address

- **Imad Sabouni** (Chairman and General Manager, Syrian Telecom):
  - Warm welcome to delegates
  - Brief overview of Syrian Telecom

1.1.2 Introductory remarks/Keynote address/ (MTG and Q.18/2)

- **Nataša Gospić** (Rapporteur ITU-D Q/18/2):
  - IMT-2000 is the key to growth in telecoms
  - Mid-Term Guidelines (MTGs): focal point for workshop

1.1.3 ITU/BDT projects of interest in ARB Region

- **Miloud Ameziane** (BDT Regional Office, Cairo):
  - Summary of ITU Arab Regional Office activities
  - Noted recent and forthcoming events in the Arab region: Doha (Sep-Oct 2003), Tunis (following WSIS II, Nov 2005)

Session 1.2: ITU Activities on IMT-2000 (a)

1.2.1 ITU Structure/ITU-T IMT-2000 Core Network Activities

- **John Visser** (ITU-T):
  - Overview of ITU structure and responsibilities
  - ITU-T activities on NGN: key topic, Focus Group, high interest and good progress

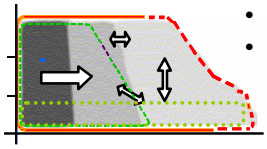
1.2.2 ITU-D: IMT-2000 Activities in support of Developing Countries

- **Riccardo Passerini** (ITU-BDT):
  - Mobile subscribers outnumber fixed subscribers across the Middle East (a few exceptions)
  - Middle East has highest growth rate worldwide
  - Discussion identified essential need of low cost terminals

Session 1.2: ITU Activities on IMT-2000 (b)

1.2.3 ITU-R: IMT-2000 Radio Technology and Spectrum Matters

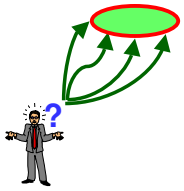
- **Colin Langtry** (ITU-R; presented by John Visser):
  - Highlighted process for identifying and allocating spectrum
    - IMT-2000 is being implemented and deployed, will evolve over next 10-15 years
    - Mobile, Internet and broadband access growing rapidly
    - Convergence is occurring in many spheres
    - New radio interfaces required around 2010-2015
    - Spectrum aspects will be considered at WRC-07



Session 1.3: International Framework for IMT-2000 (a)

1.3.1 CDG Activities, CDMA2000 leading 3G

- **George Mansho** (CDMA Development Group, presented by Luigi Gasparollo):
  - Increasing Telephony and Internet penetration has strong positive effect on GDP per capita
  - Prepaid growth very strong compared to postpaid
  - Data revenues (from anticipated 90% of users by 2008) will compensate for per user decline in voice revenues
  - CDMA will be the dominant technology in the first part of the 21st century
  - "When you come to a fork in the road, take it." * I.e., keep going, you'll get there!



* *Yogi Berra*

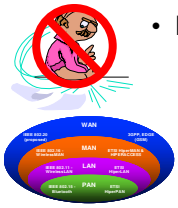
Session 1.3: International Framework for IMT-2000 (b)

1.3.2 3G/UMTS: An evolutionary path towards mobile broadband & personal Internet

- **Mr. Jean-Pierre Bienaimé** (Chairman, UMTS Forum):
  - IMS provides flexible architecture with access independence
  - IMS "separations" enables cost savings and interoperability
  - tomorrow's entire multimedia mobile world will be IMS-based
  - reasonable licensing costs and availability of a wide range of terminals are essential success factors

Session 1.4: IMT-2000 Implementation

1.4.1 Mobile 2G/3G networks: a Universal Communication and Service solution



- **Roland Thies** (Alcatel, France):
  - Teledensity, economic growth linked; internet a public utility!
  - Operator opportunities: restricted mobility a cost effective (little CAPEX, minimal or no OPEX) revenue source
  - Promising future (⇑ revenue, ⇓ churn, ⇓ OPEX):
  - Future is BB & Wireless: IP with UMA, WiMAX

1.4.2 IMT 2000 CDMA Solutions for developing countries

- **Luigi Gasparollo** (Qualcomm, Europe):
  - CDMA offers increased capacity, less cost, more throughput
  - Opportunity for increasing telephone and internet penetration
  - Each technology has to find suitable slot in emerging markets
  - Spectrum has direct impact on economic development

Session 1.5: Wireless Evolution and Implementation

1.5.1 IMT-2000 vs. Fixed Wireless Access (FWA) systems

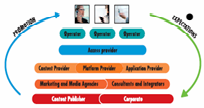
- **Jean-Pierre Bienaimé** (Chairman, UMTS Forum):
  - 3G/UMTS a commercial reality: >25M subscribers, 70 NWs
  - HSDPA enables WCDMA data speeds comparable to FWA
  - WiMAX a potentially valuable complement to pure cellular:
    - Already enjoys significant vendor, operator interest:
    - Globally harmonized spectrum not yet secured
  - Result: Always Best Connected
  - Timing is everything: 802.16e WiMAX with some mobility: standards in 2006, commercialization from 2007/2008

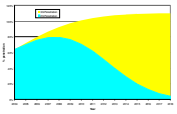
1.5.2 Application of WiFi in bridging the digital divide in developing countries

- **Jared Baraza** (Telkom Kenya):
  - Presenter not available; presentation on CD-ROM

Session 2.1: Economic and Operational aspects (a)

2.1.1 3G Business Prospects in the ARB Region

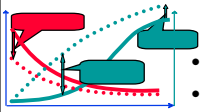




- **Hugh Collins** (Director, InterConnect Communications Ltd.):
  - 2005: start of an era in which mobile phones can do it all
  - 3G Market: affordability limits demand; at penetration ~80%, growth will be in data, entertainment: broadcast complements
  - Considerations for 3G business case, regulation:
    - 2G capabilities reduce 3G market potential
    - Alternatives: WiMAX, xDSL will detract from 3G market
  - 3G is a natural upgrade to 2G: 3G will be slow to take off, accelerate as 2G declines
    - Business plans need to be realistic
  - Discussion:
    - Basic voice services meet certain market needs
    - 3G handsets are 2G compatible: 3G rollout takes time

Session 2.1: Economic and Operational aspects (b)

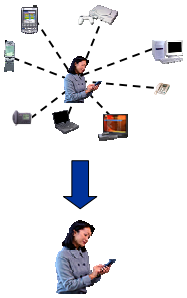
2.1.2 Economical Evaluation of 2G to 3G Migration and Business Planning



- **Oscar Gonzalez-Soto** (Spain):
  - Key economic factors:
    - Getting started: first coverage, then users, then usage
    - High get started costs
    - Competitive differentiation, QoS
  - High impact of sharing, take-up rate on profitability
  - Powerful support tools needed for sound business analysis
    - Consider key factors in a dynamic, not static, model
  - Discussion:
    - 3G may already be cost competitive with 2G
    - advertising is shifting from traditional media to internet and mobile (but don't know how much)

Session 2.2: Mobile Converged Networks (a)

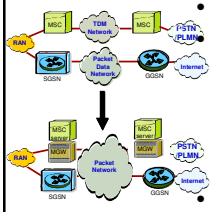
2.2.1 Shaping the Future: Mobile Network Evolution to NGN



- **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 2.2: Mobile Converged Networks (b)

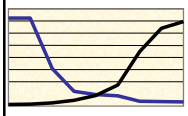
2.2.2 Mobile Network Evolution to NGN



- **Roland Thies** (Alcatel, France):
  - NGN is separation of Control and Transport
  - Unified services on standard, access independent interfaces on one transport backbone
  - NGN introduced in 3G UMTS R4/R5, CDMA2000 1x EV-DV
  - Why NGN?
    - Transport Network Simplification
    - Higher Network Scalability
    - Bandwidth Saving
    - New Services
  - CAPEX savings 35%, OPEX savings 55% in a USA example
  - Discussion: SS7 over IP (sigtran): right way to go? Some limitations identified.

Session 2.2: Mobile Converged Networks (c)

2.2.3 The view of Policy Makers and Regulators and Market Reaction



- **Rajendra Singh** (TRAI, India):
  - India experience: reaching a critical price point stimulates rapid growth!
  - Not necessary to debate whether to do 3G IMT-2000
    - Make spectrum available, let market decide
  - Let new operators use available spectrum where existing operators' spectrum requirements have been met
  - Spectrum charging for terrestrial wireless links rationalized, helps to increase internet and broadband penetration
  - Discussion: able to operate at $0.01/minute stimulates thinking on why such a low rate can allow a viable business
    - Take a fresh look at assumptions!

Session 2.3: Implementation and Operational aspects (a)

2.3.1 Bridging the Digital Divide – Using IMT-2000 to Provide Universal Access to Telecom Services

- **George Mansho** (CDG, presented by Luigi Gasparollo):
  - 3G helps bridge the "Digital Divide"
  - Future + voice + data: need both for universal service
  - Innovative application of 3G helps meet social needs, universal service obligations (multiple examples given)
  - Lower frequencies can provide better geographic coverage, economic alternatives, but limited by spectrum availability

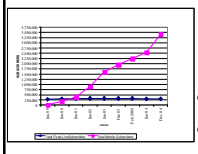
Session 2.3: Implementation and Operational aspects (b)

2.3.2 Convergence Strategy for a Universal Operator and role of Business Planning

- **Oscar Gonzalez-Soto** (Spain):
  - Market, economies of scale, competition drive convergence
    - Take a middle ground between monopoly and aggressive competition, especially in smaller markets
    - Customer mix influences costs, revenues
    - Understand future revenue mix for connectivity, services
  - Evaluate on technical, economic factors; economies of scale
    - Focus on multiple customers, multiple services domains
    - Maintain business indicators within appropriate ranges
    - Ensure proper modeling, use professional tools
  - Which convergence will happen? "Combination"
  - Discussion on economies of scale, need to plan business for the long term, ability of smaller markets to invest

Session 2.4: Operational and Regulatory Aspects (a)

2.4.1 Strategies and special needs for regulators for transition to IMT 2000: A Kenyan Response



- **Mercy Wanjau, Mwende Njiraini** (Communications Commission of Kenya, presented by Mwende Njiraini):
  - Rapid growth of mobile makes it hard for regulators to keep pace. Regulators need to both:
    - be proactive and responsive, and
    - do just what is necessary to achieve clear goals
  - Significant, growing unmet demand: mobile poised to meet
  - Convergence is an opportunity: understand it, leverage it
    - Encourage investment, competition
    - CCK initiatives: ENUM: connectivity IP/PSTN; cost studies, local & X-border interconnection
  - Embrace convergence or become a museum piece

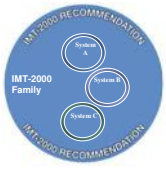
Session 2.4: Operational and Regulatory Aspects (b)

2.4.2 Case Study: Unified Licensing Regime in India

- **Rajendra Singh** (TRAI, India):
  - Convergence forcing industry realignment
    - Technologists can't foresee impacts on telecom evolution
    - Regulators: don't get in the way of market forces
  - Rural-urban teledensity gap widening:
    - Mobile phones most sensible, effective response to digital divide, ∴ must address access to a mobile network
    - Technology and service neutral licensing: best way to encourage competition, accommodate convergence
    - Partnering with poor for sustainable win-win scenarios with product and service providers
  - Industry supports unified licensing, industry now enjoying very rapid growth

Session 3.1: 2G to 3G Migration/Evolution: Guidelines for Developing Countries (a)

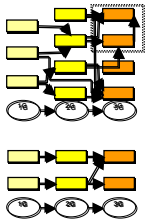
3.1.1 IMT-2000 Services: Special needs of Operators, Regulators and Users in Developing Countries



- **Nataša Gospić** (Rapporteur ITU-D Q.18/2):
  - IMT-2000 role: offer global standard for personal multimedia services to access internet, intranet, entertainment
  - "Mid Term Guidelines" (MTG, Sep 2004) met its objectives
  - "Smooth transition of existing networks ..." target: Sep 2005
  - WSIS Dec. of Principles: government development policies
  - IMT-2000 accommodates special needs for urban, sparsely populated rural, and mixed urban/rural areas
  - Key market segments in developing countries:
    - Small enterprises
    - Young people
  - Regulators: flexibility; capitalize on dev. countries' experience
  - IMT-2000 is technologically and commercially ready

Session 3.1: 2G to 3G Migration/Evolution: Guidelines for Developing Countries (b)

3.1.2 ITU-D Guidelines for Transitioning Towards IMT-2000 Systems in Developing countries



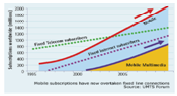
- **Davide Grillo** (Alcatel):
  - "Transition" encompasses both "migration" and "evolution"
  - Social aspects particularly important in developing countries.
  - Transition/evolution & migration phases: mix, sequence based on case specific economic and strategic decisions
  - Guidelines (GST) identify issues and options for a smooth and cost-effective transition towards IMT-2000 systems

Session 3.2: 2G to 3G Migration/ Evolution: Guidelines for Developing Countries (a)

3.2.1 Licensing Aspects

- **Riccardo Passerini** (ITU-BDT):
  - Statistics, competition stimulates growth; licensing approaches with pros & cons, considerations, etc.
    - "Beauty contest" approach preferable to auctions
  - Case study, consideration, results: opportunity to learn from others' experience; focus on long term

3.2.2 From 2G to 3G: Special needs of operators, regulators and Users in developing countries



- **Albert Kamga** (NICT Department, Ministry of Post and Telecommunications, Cameroon):
  - All developing countries experiencing the same realities
  - Mobile is addressing the needs
  - Appropriate analysis of needs will identify the path forward

Session 3.2: 2G to 3G Migration/ Evolution: Guidelines for Developing Countries (b)

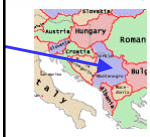
3.2.3 Bridging the digital divide in Africa using 3G and IMT 2000

- **Jared Baraza** (Telkom Kenya):
  - Presenter not available; see CD-ROM

Session 3.3: 2G to 3G Migration/ Evolution: Guidelines for Developing Countries (a)

3.3.1 Transition Path to IMT-2000 in Serbia

- **Divna Vuckovic** (Director Customer Solutions & Sales Support, Ericsson d.o.o, Serbia & Montenegro):
  - Observe well developed European GSM operators going to WCDMA but are still building out their GSM coverage:
    - How to maximize reuse of current GSM assets?
    - How to deploy WCDMA while keeping GSM profitable?
  - Aim: integrate GSM, WCDMA to form a seamless network
  - Information on Serbian market situation: regulation, operators, services, considerations; spectrum incumbents
  - Significant issue in spectrum allocation for 3G!



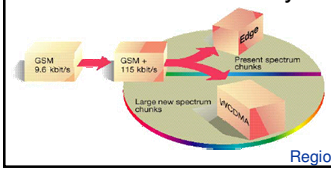
3.3.2 3G in Qatar

- **Abdulaziz Ibrahim Fakhroo** (Qatar Telecom):
  - Not available

Session 3.3: 2G to 3G Migration/ Evolution: Guidelines for Developing Countries (b)

3.3.3 Implementation of the Mid Term Guidelines (MTG) in the real network project

- **Jakov Stojanovic** (MOBTEL Srbija) **Milan Gospic** (Ericsson), presented by Divna Vuckovic, (Ericsson, Serbia & Montenegro):
  - GSM/GPRS a first step in transition from 2G to IMT-2000:
  - Pre-commercial trial of WCDMA/UMTS network underway
  - Indicated core network connectivity situations
  - RAN aspects and considerations described
  - Discussion: despite certain difficulties and issues that are being resolved, mobile telecommunications in Serbia is very clearly succeeding, and a bright future is envisaged



Session 3.4: Seminar Feedback and Conclusion

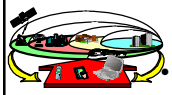
3.4.1 Participants' feedback per country

- **HoD of each participating country**
  - Brief presentation of key points of feedback to assist ITU-BDT in making these regional seminars as useful and effective as possible

3.4.2 Conclusions and closing remarks

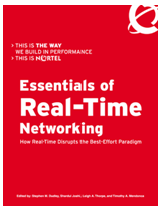
- **John Visser** (ITU):
  - This presentation
- **Nataša Gospić** (ITU):
  - Closing remarks

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=@@@@044962930 9.1115789159@@@@&BV_EngineID=gadddhfhejghbhkc ginchgcgjg.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"**

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

Appendix: Some Additional Resources * (3/3)

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.requtil.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!