Conclusions

3.5.2: Seminar Feedback and Conclusions

ITU-BDT Regional Seminar on IMT-2000
for CEE and Baltic States
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Session 1.1
Opening

- **Welcome address**
  - **His Excellency Mr. Pavel Gandar, Minister of Information Society, Slovenia**
  - **Nenad Stankovic, ITU-BDT**
- **Introductory Remarks & Keynote Address**
  - **John Visser, P.Eng.,** Chairman of Seminar
  - **objectives for seminar**
  - **overview of ITU structure to set context**
- **Acknowledgement to Hosts**
  - **Mojca Jarc, Under-Secretary, Ministry of Information Society**
  - **Jože J. Unk, Under-Secretary, Ministry of Information Society**
  - **Tomaž Menih, Mobitel d.d.**

Session 1.2
ITU Activities on IMT-2000

- ITU-T - John Visser
  - SSG role, mandate, activities, results, future directions
- ITU-R - Colin Langtry (ITU-R) (presented by John Visser)
  - ITU-R WP 8F role, work plan, need for extensive preparations to define need, obtain spectrum for IMT-2000
- ITU-D - Riccardo Passerini (ITU-BDT)
  - role, activities of BDT in meeting WTDC-02 Resolutions:
    - Res.43: ITU assistance for IMT-2000 implementation
    - Question 18/2: migration towards IMT-2000
    - Program 2, point 1.4: mobile terrestrial communications
- Central Europe - Milan Konvit (ITU-BDT)
  - IMT-2000 in Central Europe very successful: overall “average” but variation by country

Session 1.3
International Framework for IMT-2000

- CDG - Ewa Gawora (CDMA Development Group)
  - Information on CDMA Development Group and its role
  - capabilities, advantages, data capabilities, migration
  - cdma2000 deployment worldwide; case studies
- UMTS Forum - Jean-Pierre Bienaimé (UMTS Forum)
  - Information on UMTS Forum and its role
  - GSM UMTS & WCDMA deployment, plans worldwide
  - preparing for enhanced “3G”
- IMT-2000 in Africa Region - Ngae Denis & Abdouramane El Hadjar (MPT Cameroon)
  - mostly prepaid; high ratio mobile/fixed; high growth rate
  - limited resources, large cells for sparsely populated areas
  - Douala seminar: needs, how to develop market in Africa
  - 3G in Africa: anticipated not before 2010
  - importance of global harmonization and compatibility

Session 1.4
IMT-2000 Related Fora and Consortia

- 3GPP2 - Hideo Okinaka (KDDI) (presented by John Visser)
  - overview of structure, membership, organization, releases
  - cdma2000 1xEV-DO (HRPD) and 1xEV-DV evolution
- 3GPP - Paul Reid (ETSI MCC)
  - overview structure, membership, organization, releases
  - prepares and maintains specifications for GSM, GPRS, EDGE, W-CDMA - FDD, TD-CDMA - TDD (& TD-SCDMA)
- Both: actively working on Harmonization
- Standards work is contribution driven -
  - participate to have your voice heard!
- Q&A:
  - incompatibilities today, but working to reduce
  - vision: global roaming, seamless service experience

Session 1.5
Wireless Evolution and Implementation

- UMTS/IMT-2000 vs. WLAN: Competitive or complementary? - Jean-Pierre Bienaimé (UMTS Forum)
  - UMTS: complete, end-to-end wide area mobile system
  - WLAN: low mobility, high speed wireless access to public and private networks in hot spots
  - ∴ Complementary!
  - Q&A: CDG concurs
- Towards NGN - Christoph Legutko (Siemens AG)
  - Drivers: bandwidth-intensive applications, limited capacity of traditional access networks, cost reductions, exploding, unpredictable bandwidth demand ...
  - NGN: All-IP is a necessary common denominator
    - xDSL: gaming, VoD, home networking
    - Mobile: growth, but more so for data: data grows ARPU
    - WLAN: a viable cordless data solution for nomadic use

Session 2.1a
Evolution and Migration to IMT-2000 and Systems Beyond

- An Optimized Approach in 3G Mobile Systems Deployment: Milica Pejanovic (U of Montenegro)
  - 2 basic approaches: innovative, evolutionary
  - IP Multimedia Core Network for services, evolution
- Economic Aspects of Evolution Towards IMT-2000: Kirit Lathia (Siemens Mobile SpA)
  - User needs driven; 10 yr. business model; do back-office!
  - UMTS only economical choice for this region
- Business Considerations for Migration/Evolution to IMT-2000: Chris Jackson (GSM Association)
  - Focus on commercial success: services before technology
  - Inter-operability, inter-working critical: do 3G when needed

Session 2.1b
Evolution and Migration to IMT-2000 and Systems Beyond

- Mobile Network Evolution to NGN: Nat Natarajan (Motorola)
  - Target: seamless mobile experience - system optimizes access choice as user moves to different environments
  - Monolithic system to “applications ecosystem”
- Mobile Network Evolution to NGN: Roland Thies (Alcatel)
  - NGN is 3G: UMTS R4/R5 and CDMA2000 1xEV-DV
  - One transport backbone for voice, data on ATM or IP
  - Unified Services: fixed, mobile, PC, phone
- Mobile Network Evolution to NGN: John Visser (Nortel Networks)
  - Enhance user experience: blend devices
  - Transformation: access independent common infrastructure
  - Paradigm shift required: mobile > fixed; convergence: {Internet, Broadcasting, Telephony}

Session 2.2a
IMT-2000 Regulatory and Operational Aspects

- Spectrum Issues for IMT-2000: Eva Kalman (Orange)
  - 2500-2690 MHz: for capacity in high pop. density areas
  - <470-960 MHz: for low pop. density, developing countries
  - 3G Licenses: do a few, use qualitative criteria, reasonable costs
- Regulatory Considerations (CDG): Molly Gavin (Qualcomm)
  - Spectrum a scarce and valuable resource: flexibility important
  - Priorities must be ranked: cost/services/capacity/roaming/...
  - Need multi-band/mode phones: no 1 global freq. & technology
  - Q&A, Discussion:
    - Interoperability w/ tech. neutrality can be managed, solved
    - Implementation of multi-mode in a small form factor possible
- IMT-2000 Regulatory Environment: Jean-Pierre Bienaimé (UMTS Forum)
  - UMTS is happening: multiple launches in 2003, 2004
  - Frequency trading, infrastructure sharing are realities
  - Govts., Regs., industry: realistic work together for market success

Session 2.2b
IMT-2000 Regulatory and Operational Aspects

- Licensing IMT-2000: Principles and Methods: R. Passerini (ITU-BDT)
  - Principles of licensing procedures and methods
  - Case studies show effect of licensing on market
- Licensing IMT-2000: Objectives and Reality - Case Study - Portugal: Sofie Maddens (TMG – Telecommunications Management Group)
  - Government: a unique stakeholder with unique agenda
    - Look after the forest, don't focus on the trees
    - Focus on long term (avoid short term perspectives)
    - National subject within a region and global context
- IMT-2000 Spectrum Activities: Christoph Legutko (UMTS Forum)
  - More users/usage/services could overload spectrum within 5 years:
    - 2005-2010: speech services will need all 2G band allocations
    - IMT-2000 core bands sufficient for mobile MM services to >= 2005
    - 2005 - 2010: additional spectrum in the order of 190 MHz needed
  - Next Step: frequency plan for the 2.5 GHz band
  - Avoid allocations outside IMT-2000 bands: problems in industry fragmentation, operator viability, coordination, roaming, ...

Session 3.1
Wireless Evolution and Implementation

- GSM Evolution towards 3G Environment: Boris Drilo (Ericsson)
  - GSM/WCDMA will the leading leading standard in mobile
  - Evolution: GSM/GPRS/EDGE/WCDMA; synergy GSM and WCDMA
  - GSM/WCDMA: will see future performance improvements
- Evolution Strategies towards IMT-2000: Peter Gorham (Lucent Technologies)
  - Need an "economical" 3G solution for wide area coverage
  - Lower frequencies key to reducing cost: multiple bands available
  - Most successful 3G technologies: best coverage + cost efficiency
- Service perspectives on systems beyond IMT-2000: Tatsuro Masamura (NTT DoCoMo)
  - Excellent video: user focussed, not limited by what we can do now
  - "Multimedia" and "Ubiquitous" will drive traffic growth
  - 100 Mbps to 1 Gbps will be required to support applications

Session 3.2
IMT-2000 Technology

- Technology Options for Evolution from Existing Mobile Systems to IMTS-2000: Bosco Fernandes (UMTS Forum)
  - Smooth migration a cornerstone of success for 2.5G and 3G
  - Delivery of rich media vital for service revenues
  - Operators: do IMS business cases, network interconnectivity planning now
- Technology Options for Evolution from Existing Mobile Systems to IMT-2000: Peter Gorham (Lucent Technologies)
  - key driver for 3G: data applications in addition to voice
  - cdma2000 advantages: evolution; voice & data capacity
- Radio Network Planning Aspects for IMT-2000 Networks: Roland Götz (LS telcom AG)
  - 3G = 2G + service mix + both up, downlink traffic: forecasts more important
  - Challenge: effectively planning for real traffic loads and mixes essential
  - Key driver for adoption of 3G: data applications in addition to voice
- Q&A/Discussion:
  - Differing viewpoints on evolution, capacity, application of UMTS vs. cdma2000. Dominant factors: traffic and capacity. Operators need to consider each system's strengths and weaknesses, local needs and situation: then select the best solution for their situation.

Session 3.3
IMT-2000 Implementation

- CDMA 2000 and CDMA 450: Colin Chandler (International 450 Association) (presented by Victor Stan)
  - CDMA 450 is a commercially and technically viable technology in operation today providing cellular voice data and WLL services
- Economic Evaluation of 2G to 3G Migration: Oscar Gonzalez Soto (Spain)
  - Key factors: infrastructure cost, impact of sharing and take-up rate
    - non-linear cost/revenue profiles as systems mature, evolve
    - need to bridge financial and technical model approaches
    - high start-up costs, low early revenues: hard for new operator
  - Strong support tools needed to analyze large number of scenarios
  - Reduce up-front costs, increase take-up to raise NPV, profitability
- Q&A:
  - Have effects of flat rate pricing been considered? Model can eas ily do.
  - Reducing voice revenues noted. Low voice usage in Europe may be very sensitive to tariffs, compare to North America. Tariff/charging models may have substantial impact but are also affected by cultural factors. Quality forecasts are essential.

Session 3.4
Mobile Network Experience in the Region

Country Case Studies:

- Mobtel 's Migration Path to 3G
  - Radmila Simic (Mobtel, Serbia and Montenegro)
- 3G Network Planning - Mobitel's Approach
  - Zoran Vehovar (Mobitel, Slovenia)
- IMT-2000 technology in 450 MHz spectrum - Telemobil case study
  - Victor Stan (Telemobil SA, Romania)
- Market Launch if the First in Russia IMT-MC Network in the 450MHz Band
  - Konstantin Kolomensky (Delta Telecom, Russia) (presented by Gennady Golant)

Other Resources

- **SANCHO: http://www.itu.int/sancho/**
  - **ITU-T Sector Abbreviations and DefiNitions for a TeleCommunications THesaurus Oriented Database**
  - **a tool for finding abbreviations and definitions of terms in ITU-T**
- **The Acronym Database**
  - **http://www.ucc.ie/acronyms/**
- **ITU-T NGN Workshop (program, presentations, conclusions):**
  - **http://www.itu.int/ITU-T/worksem/ngn/index.html**

Thank you!