

ITU Regional Forum for Arab Region: IMT Systems Technology, Evolution and Implementation

Tunis, Tunisia, 7-9 May 2013

ITU-T Study Group Activities and deliverables related to IMT

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Mobility

- Where is the growth in telecoms?
 - Mobile subscriptions!
 - How many subscriptions one person has nowadays?
 - Frequently more than one!
 - What are we doing on the phones?
 - Talking? Of course.
 - SMS/IMing? Yes.
 - Surfing? YES!
- } Convergence!

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History

- Up to year 2000, mobility had been a WP in SG 11 which also deals with signalling and protocols, and Intelligent Networks
 - ▶ Q.1701 "Framework for IMT-2000 networks" (03/1999)
 - ▶ SG 11 has provided major contributions to modern telecoms in SS7, ISDN and Intelligent Networks

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ITU-T Gave Mobility Prominence

- Based on assertions that mobility was becoming increasingly important and that work in this area needed greater visibility, WTSA-2000 created the Special Study Group (SSG) on "IMT-2000 and systems beyond"
 - ▶ Lead Study Group on IMT-2000 and beyond and for mobility



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ITU-T Continued Mobility Prominence

- SSG developed good working relationships with ITU-R, 3GPP and 3GPP2 toward ensuring well-coordinated IMT-2000 Family Member specifications
 - ◆ Multiple iterations of Q.1741-series (3GPP) and Q.1742-series (3GPP2)
 - ◆ **Q.1741.1** "IMT-2000 references to release 1999 of GSM evolved UMTS core network with UTRAN access network" (04/2002) and **Q.1742.1** "IMT-2000 references to ANSI-41 evolved core network with cdma2000 access network" (12/2002)

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ITU-T Continued Mobility Prominence (2)

- Based on the accomplishments of the SSG and the continuing growth of mobility, WTSA-2004 upgraded SSG to a regular SG: SG 19 "Mobile telecommunication networks"
 - ◆ Lead study group on mobile telecommunication networks and for mobility



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Mobility is part of NGN

- WTSA-08 combined the SG19 and SG13 into one group called "Future networks including mobile and NGN", new SG13
 - ◆ with a leading role on mobility management and fixed-mobile convergence



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Mobility is part of new SG13

- WTSA-12 confirmed the role of SG13 in mobile related studies ("Future networks including cloud computing, mobile and next-generation networks")
 - ◆ With a leading role on mobility management
 - ◆ Studied under Q9/13 "Mobility Management"



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IMT-2000 and IMT-Advanced

- IMT-2000 Radio Access interfaces were dealt with in ITU-R WP 8F (prior to WRC-07) and now in WP 5D
 - Technologies described in ITU-R Rec. M.1457 "Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2000 (IMT-2000)" ("11" 02/2013)
 - IMT-Advanced in ITU-R Rec. M.2012 "Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications Advanced (IMT-Advanced)" (01/2012)

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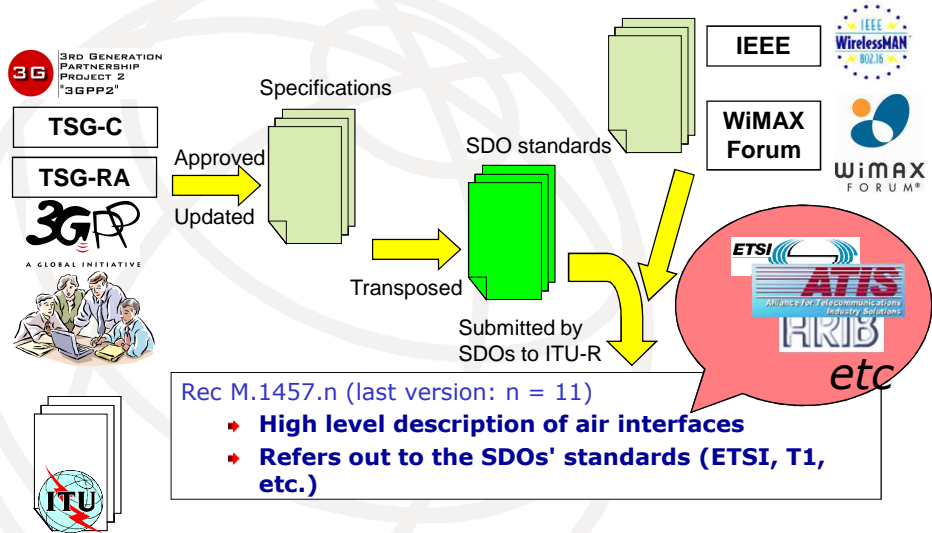
IMT-2000 in ITU-T

- Users will only get "service" if there are both:
 - Radio access interfaces
 - A suitable core network infrastructure
- Hence need for ITU-R and ITU-T to continue to work closely together to ensure a "complete package"
 - It's not only about radio access, "wired" users experience broadband access, too!

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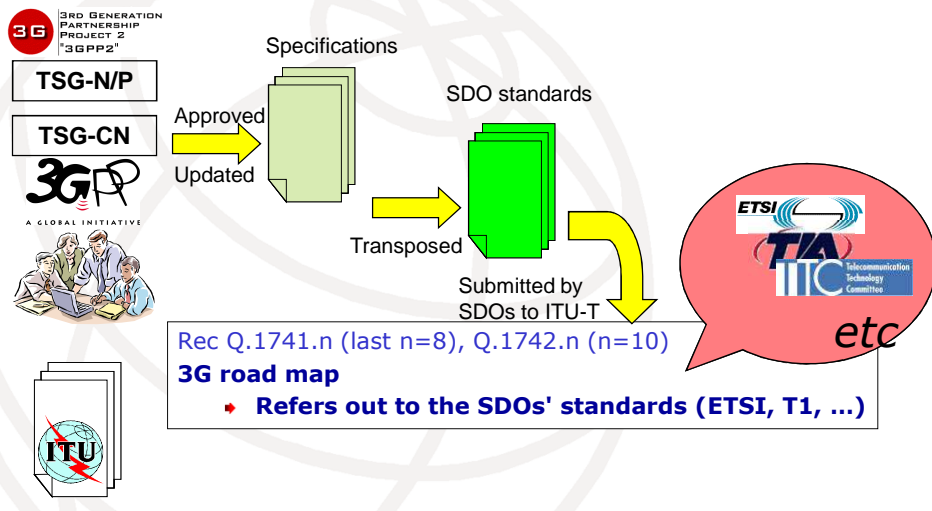
IMT-2000: 3GPPs & ITU-R WP 8F/5D



Rec M.1457.n (last version: n = 11)

- High level description of air interfaces
- Refers out to the SDOs' standards (ETSI, T1, etc.)

IMT-2000: 3GPPs & ITU-T SSG/SG19/SG13



Rec Q.1741.n (last n=8), Q.1742.n (n=10)

3G road map

- Refers out to the SDOs' standards (ETSI, T1, ...)

Convergence is at the heart of NGNs

- ▶ Q.1761 "Principles and requirements for convergence of fixed and existing IMT-2000 systems" (01/2004)
- ▶ Q.1762/Y.2802 "Fixed-mobile convergence general requirements" (09/2007)
- ▶ Q.1763/Y.2803 "FMC service using legacy PSTN or ISDN as the fixed access network for mobile network users" (10/2007)

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Mobility Management (non-exhaustive list below)

- ▶ Q.1706/Y.2801 "Mobility management requirements for NGN" (11/2006)
- ▶ Q.1707/Y.2804 "Generic framework of mobility management for next generation networks" (02/2008)
- ▶ Q.1709/Y.2806 "Framework of handover control for NGN" (10/2008)

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Recent Deliverables on IMT

- Recently approved outputs of Q4/13:
 - ▶ **Q.1741.8** "IMT-2000 references to Release 10 of GSM-evolved UMTS core network" (04/2013)
 - ▶ **Q.1742.10** "IMT-2000 References (approved as of 31 December 2011) to ANSI-41 evolved Core Network with cdma2000 Access Network" (04/2013)

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Modern SG13

- Has two Questions on IMT
 - ▶ **Q4/13** "Identification of evolving IMT systems and beyond"
 - ▶ **Q5/13** "Applying IMS and IMT in developing country mobile telecom networks"

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Future work

- Q4/13
 - ◆ **Q.EPC-R10** "IMT-Advanced references to Release 10 of LTE-Advanced Evolved Packet Core (EPC) network" (Ericsson, OFCOM), **Q.1741.9** (NTT, China Telecom), **Q.1742.11** (China Telecom, Ericsson)
- Q5/13
 - ◆ First deliverable is **Supplement on Scenarios and requirements** in terms of services and deployments for IMT and IMS in developing countries

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Summary and Conclusions

- Mobility continues to be fundamental to modern telecoms
- IMT is one of the core and evolving ITU activity:
 - ◆ R sector for radio access
 - ◆ T sector for wired access and core network infrastructure
 - ◆ D sector to support application and migration in developing countries
- NGNs build on IMT and other new access capabilities with an infrastructure based on packet transfer, separated service and transport

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Thank you for your attention!

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