ERICSSON

Establishing Working Relations With IETF

3GPP

Next Major Standardization Challenge

- Internet contains both the present and future base for the applications of the Information Society.

- Mobile systems offer the most attractive access form for the end user

- Combining mobile systems, the specification efforts of 3GPP, with Internet, the specification efforts of IETF, will undoubtedly result in extensive end user value.

- The next major standardisation challenge is how to merge mobile systems with the Internet.

ERICSSON

Some Difficulties remain

- Current IP protocols presume a wired environment, meaning a bit error and fading free world with low penalty to bandwidth resources.

- If IP protocols are to be used in the mobile environment, the classical radio related problems such as the scarce spectrum resource and terminal mobility etc. must be carefully analysed. This may require specific radio adaptation of IP.

- Further, to facilitate convergence, IP adaptation, to the extent possible, should be made in an access independent manner.

- The aspects of mobile terminals must also be catered for, i.e. the restrictions in size, weight, display, battery life etc.

One system, Two main foras

- Adaptation of IP to the mobile environment clearly requires that 3GPP as a radio competent body contribute to this.

- The standardization effort of this "Mobile-Internet integration" requires a major effort that must be handled with the appropriate expertise.

- The expertise for the radio adaptation of IP reside in 3GPP. However, the IP protocols are developed and maintained by IETF.

- The working arrangements for this (e.g. the principles regarding work distribution between 3GPP and IETF) must be established as soon as possible.

ERICSSON

Proposed 3GPP Objectives

- **3GPP must take the lead in defining the wireless adaptation of IP, in co-operation with IETF, as 3GPP holds the radio expertise and the systems responsibility for wireless services, including IP**

- **3GPP should align with IETF and facilitate the convergence of access independent end user services, i.e. alignment with IETF mechanisms to define end user services over any access type**

- **This requires that 3GPP establish some basic architectural principles to facilitate a functional map where technical issues can be identified (e.g. identifying issues related to radio adaptation of IP) and establish suitable working arrangement with IETF.**

Example: IETF components in 3GPP

Item	IETF	3GPP
Call & Bearer Separation	MEGACO	SA, CN
Robust Header Compression	ROBHC	RAN
Integrated services over specific link layers CN QoS	ISSLL	S1/S2/CN?
Performance Implications of Link Characteristics CN QoS	PILC	S1/S2/CN?
IP Routing for wireless/mobile Hosts	MobileIP	S2/CN
Mobile ad-hoc networks	MANET	S3/CN?
Generic Switch Management Protocols CN QoS	GSMP	CN?

Example: IETF components in 3GPP

Item	IETF	3GPP
Multiprotocol Label Switching	MPLS	S2, CN
SIP	MMUSIC?	S2/CN/RAN/ GERAN /T
IP Security	SEC	S3,CN,RAN/ GERAN
Charging	?	S1/S5/S2/CN/ RAN/GERAN
AMR-Profile	?	S4/CN?
IP v6	?	S2/CN/RAN / GERAN
Authentication, Authorization & Accounting	AAA	?

ERICSSON

Procedures

- Form a hi-level acknowledgement of working relations in the form of an agreement between IETF and 3GPP

- Identify IETF issues and influence the existing IETF working groups

- Identify BOFs and new Working Groups necessary in IETF to provide the wireless/mobile adaptations of IP protocols

Principles for 3GPP-IETF relations

- **IETF recognises the need to support and to further develop Internet Protocols for the wireless/mobile domain**

- **IETF recognises 3GPP as one centre of excellence responsible for defining standards for wireless/mobile systems**

- **3GPP recognises IETF as the owner of Internet protocols, and consequently the centre of excellence for its further development**

- **3GPP will provide input on radio/terminal and other necessary adaptations into IETFs existing structure, by BOFs or by establishing new IETF Working Groups, in line with existing IETF procedures.**

ERICSSON

3GPP IETF Function

- **Proposal is that an IETF function is established within 3GPP. Suggested terms of reference is follows:**

  → Initiate, establish and maintain a working arrangement with IETF.

  → Represent 3GPP in IETF, when required

  → Catalyst for Identifying IETF issues within 3GPP

  → Secure the preparation and presentation of IETF input, in a coordinated manner: Note that the 3GPP WGs input directly to IETF

  → Identification of BOFs, new IETF WGs or other hands on arrangement

  → Maintain status of IETF components relevant to 3GPP

Recommendation

- In line with what was endorsed at the 3GPP all IP workshop in Nice Feb 7-9, dedicated activities in establishing working relations between 3GPP and IETF must be initiated.

- The proposal is that SA endorses this and allocates actions to establish such relations by,

    → Establishing a co-operation agreement with IETF

    → According to the proposed terms of reference above, establishing a 3GPP IETF function to start up the necessary activities.