

## REPORT

### IP –TELECOMS INTERWORKING WORKSHOP (Numbering, Naming, Addressing and Routing) ITU, Geneva 25-27 January 2000

The International Telecommunications Union sponsored an IP-Telecoms Interworking Workshop focusing on Numbering, Naming, Addressing, and Routing that was held in Geneva from 25-27 January 2000, chaired by Mr. Fred Gaechter, Rapporteur for Question 1/2. Mr. Gary Richenaker prepared this Report.

During the meeting the following agreements were reached:

- 1) In concept, the definitions currently contained in ITU Draft Recommendation E.191 for Name, Address, Number and End-User were generally agreed to for use during this meeting. (See **Attachment 2**).
- 2) There are no interworking issues that need to be resolved within the existing scope of ENUM.
- 3) ITU-T participants will review the current iteration of ENUM and other related documents and liaise their comments to the ENUM working group and other relevant working groups following the SG2 meeting in March.
- 4) There was agreement on 14 Issues to be addressed either by the IETF, the ITU, or jointly by the IETF-ITU. The Issues and their disposition are contained in **Attachment 1**.

At the conclusion of the meeting the following work plan was agreed:

- 1) Issues unique to a specific forum will be input to that forum from participants at this workshop.
- 2) The ITU-T will establish a web site for access to the documents distributed at the meeting, and the meeting report.
- 3) The IETF will establish a mailing list to allow for collaboration with ITU participants.
- 4) For joint collaboration work, a conference call will be scheduled in April to discuss the progress of the agreed to work items. This conference call between the ITU and IETF management team will follow both the SG2 and IETF meetings in March. Future meetings may be required.
- 5) ITU collaborators are welcome to participate in IETF activities on an ongoing basis.
- 6) The various Web and email addresses for follow-up work are listed over the page.
- 7) The Workshop Agenda is contained in **Attachment 3** and the list of participants in **Attachment 4**.

### **Web and Email Addresses**

1. The IETF has provided the following email addresses on which you can follow ongoing collaborative work arising from this Workshop:

- To subscribe to the mailing list:

[itu+ietf-request@ietf.org](mailto:itu+ietf-request@ietf.org)

- Discussion site:

[itu+ietf@ietf.org](mailto:itu+ietf@ietf.org)

2. For information on IETF ENUM Work Group (E.164 resolution) charter and Mail List:

<http://www.ietf.org/html.charters/enum-charter.html>

3. The Report and documents for this Workshop can be found on the following public ITU-T Website:

<http://www.itu.int/ITU-T/ip-telecoms/ip-telecoms.htm>

ATTACHMENT 1

**IP- TELECOM INTERWORKING WORKSHOP**  
**Focusing on Numbering, Naming, Addressing and Routing**  
**Issue Identification**  
**January 2000**

<b>Issue #</b>	<b>Issue Title</b>	<b>Issue Description</b>	<b>Related Work</b>	<b>Responsible Forum</b>
1	Accommodate E.164 Number Portability (Related to Issue 14)	This issues relates to the three types of portability; <ul style="list-style-type: none"><li>- Service Provider</li><li>- Location</li><li>- Service</li></ul>	<ul style="list-style-type: none"><li>- ITU Number Portability Supplement</li><li>- Q.769.1</li><li>- ENUM</li><li>- SIP</li><li>- DNSEXT</li><li>- ETSI TIPHON</li><li>- SG2(WP1/2)</li><li>- SGs 11, and 16</li></ul>	IETF-ITU
2	Transfer of Caller and Called Party information	The transfer of Caller and Called Party involves only one layer. Transfer of Caller and Called Party information between both parties	<ul style="list-style-type: none"><li>- ETSI STF 157</li><li>- SIP</li><li>- H.323</li><li>- H.248</li><li>- MEGACO</li><li>- SIGTRAN</li><li>- SG2(WP1/2)</li><li>- SGs 11, 13 and 16</li></ul>	IETF-ITU

3	E.164 Number for IP based End-User	The allocation of E.164 resources to IP based users	<ul style="list-style-type: none"> <li>- H.323</li> <li>- H.248</li> <li>- SIP</li> <li>- ETSI TIPHON</li> <li>- SG2(WP1/2)</li> <li>- SGs 11, and 16</li> </ul>	ITU
4	E.164-DNS Interworking (Related to Issue 8)	Collaboration on the identification of specific issues and appropriate work parameters related to E.164 – DNS interworking (such as interworking concepts and principles, administrative and operational aspects, identification of other relevant aspects.)	<ul style="list-style-type: none"> <li>- DNSEXT</li> <li>- ENUM</li> <li>- 3GPP</li> <li>- 3GPP2</li> <li>- SG2(WP1/2)</li> <li>- SGs 4, 11, and 16</li> </ul>	IETF-ITU
5	Carrier Selection/ Preselection	Originating networks often have to support ability of customer to decide, e.g., “send all my international calls via operator X.” As such, where the originator is IP-based, the “E.164-IP Resolution Process” will have to determine a result, e.g., egress gateway based on the combination of destination E.164 number and user preference/CLI, i.e., the answer may vary according to context and there may be no universal answer for a given E.164 number.	<ul style="list-style-type: none"> <li>- ITU Supplement on Carrier Selection</li> <li>- SG2(WP1/2)</li> </ul>	ITU Lead and IETF-ITU

6	E.164, URL's and "Telephony"	<p>Wide range of E.164 "telephony" issues raised in Internet drafts proposing URLs, e.g.,</p> <ul style="list-style-type: none"> <li>- Tel/fax/modem</li> <li>- Global/local</li> <li>- Dialling &amp; post dialling</li> <li>- Options &amp; features; and</li> </ul> <p>meta-issue of process (individual's drafts vs. those associated with Working Groups).</p>	<p>Internet drafts such as</p> <ul style="list-style-type: none"> <li>- afifi-sixtel-00.txt</li> <li>- antti-telephony-url-12.txt</li> <li>- kurrasch-tmar-00.txt</li> <li>- gelman-phone2web-00.txt</li> </ul> <p>Internet drafts such as those related to "VPIM" and to IETF working groups</p>	IETF
7	E.212 – IMSIs & mobility with IP	<p>In IETF documents, IMSI's are mentioned but ITU-T Rec E.212 is not often referenced. A review of the IETF documents is needed to ensure that the appropriate use of the term IMSI is used.</p>	<p>Rec. E.212 Rec. E.214 3GPP 3GPP2</p>	IETF
8	Administration of E.164 numbers in domain name servers (Related to Issue 4)	<p>How are numbers distributed among domain name servers in different situations? An example, a DNS rule is one authoritative server per telephone number. What if two SPs wish to list information on a telephone number?</p>	ENUM	IETF
9	How changes get propagated throughout the proposed ENUM DNS service	<p>One example, if an Area Code changed – propagation must be timely (within expected range).</p>	ENUM requirements related work	IETF
10	DNS/ENUM Service logic	<p>How does DNS/ENUM resolve whether service logic is needed, e.g., via TRIP protocol, for a particular E.164 name lookup?</p> <p>What is the response to a user if service logic is needed (DNS/ENUM protocol issue)?</p>	<p>DNSEX ENUM IPTEL SG2(WP1/2)</p>	IETF – ITU (Q10/2)

11	IN Routing Methods	Need to provide IN-based routing methods across IP- and TDM-based networks	IPTEL SIGTRAN 3GPP 3GPP2 SG2(WP1/2) SIP PINT SPIRITS Q.1200 Series	IETF-ITU (SGs 2&11)
12	QoS Routing Support	Need to support QoS routing methods e.g., dynamic bandwidth reservation/protection across IP- & TDM-based networks	MPLS RSVP ISSLL SG2(WP1/2) TEWG E.350 E.351 E.352 SG 13 I.350 I.351 I.352 I.370	IETF – ITU

13	Tracking of Routing Address	Support tracking of E.164- name to IP-address (or international network routing address, etc.) for wireless and portable terminals	Dynamic DNS SIP E.212 E.214 E.353 H.323 SG2 SG16	IETF
14	Interworking of routing addresses and IP names/addresses (Related to Issue 1)	ITU are defining an “international” routing address plan, e.g., for use in the portability of [global] E.164 numbers, and routing of calls to potential regional country codes (ETNS). There may be a need to interwork routing addresses with IP Technologies.	E.353 SG2(WP1/2)	ITU Lead & Collaborate with IETF

The identified issues are not listed in order of importance.

Legend:

3GPP	Third Generation Partnership Project
3GPP2	Third Generation Partnership Project 2
DNS	Domain Network System
DNSEXT	DNS Extensions (An IETF Workgroup)
ENUM	Telephone Number Mapping (An IETF Workgroup)
ETSI SPF	European Telecommunication Standardization Institute – Special Task Force
IETF	Internet Engineering Task Force
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
IPTTEL	Internet Telephony (An IETF Workgroup)
ISSLL	Integrated Services over Specific Link Layers (An IETF Workgroup)
ITU	International Telecommunications Union
MEGACO	Media Gateway Control (An IETF Workgroup)
MPLS	Multi-Protocol Label Switching (IP QoS) (An IETF Workgroup)
QoS	Quality of Service
PINT	PSTN and Internet Internetworking (An IETF Workgroup)
RSVP	Resource Reservation Setup Protocol
SIGTRAN	Signalling Transport (An IETF Workgroup)
SIP	Session Initiation Protocol (An IETF Workgroup)
SPIRITS	Service in the PSTN/IN Requesting Internet Service (An IETF Workgroup)
SG	Study Group
SP	Service Provider
TRIP	Telephony Routing over IP
TDM	Time Division Multiplexing
WP	Working Party
VPIM	Voice Profile for Internet Mail



## ATTACHMENT 2

### **DOCUMENTED DEFINITIONS**

**(Source: Recommendation E.191)**

- **Name** (“Naming”) – a combination of alpha, numeric and symbols that is used to identify end users.
- **Address** (“Addressing”) – a string or combination of digits and symbols which identifies the specific termination points of a connection and is used for routing (functions as a “locator”).
- **Number** (“Numbering”) – a string of decimal digits that can function both/either as a Name and/or an Address. Portability reduces a Number’s role as an address and Numbers are increasingly functioning solely as a name.
- **End User** - a logical concept which may refer to a person, a persona (e.g. work, home), a piece of equipment (e.g. NTE, phone), an interface, a service (e.g. Freephone), an application (e.g. Video on Demand), or a location.

ATTACHMENT 3

**AGENDA**

**IP-TELECOMS INTERWORKING WORKSHOP**

**(Numbering, Naming, Addressing and Routing (NNAR) Topics)**

**25-27 January 2000, Geneva, Switzerland**

**Day 1 – 25 January (Tuesday)**

- Welcoming Statements (Chairman and ITU)
- Chairman's Opening Presentation (Purpose of the Workshop)
- Introduction of and Agreement with Workshop Objective, Agenda, Work Method, and Output Mechanism
- Presentations by ITU and IETF representatives, including Q&A, on Forum Organization/Work Methods and Projects related to the Workshop Topic
- Presentation on IPv4 and IPv6 Address Allocation Policy, including Regional Registries
- Discussion of Terms and Definitions, e.g., "naming", "numbering", "addressing".

**Day 2 – 26 January (Wednesday)**

- Presentation and Discussion of Topics Resolution Matrix (Group Effort)
- Introduction and Discussion of NNAR topics: Definition, Related Work Efforts, Dependencies (place into the Topics Resolution Matrix)
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**Day 3 – 27 January (Thursday)**

- Discussion and Agreement with Responsible Forum for each NNAR topic: Add to the Topics Resolution Matrix
  - Discussion and Agreement with a Timeline for the Project and each NNAR topic: Add to the Topics Resolution Matrix
  - Develop the ongoing Work Method and Tracking Mechanism for the Project and each NNAR topic
  - Develop, Review, and Agree To Workshop Output (Matrix-based)
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ATTACHMENT 4

**IP-TELECOMS INTERWORKING WORKSHOP, Geneva, 25-27 January 2000**  
**FINAL LIST OF PARTICIPANTS**

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