INTERNATIONAL TELECOMMUNICATION UNION

COUNCIL

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Report by the Secretary-General

1   Subject: INTERNET PROTOCOL (IP)-BASED NETWORKS AND MANAGEMENT OF INTERNET NAMES AND ADDRESSES

2 Purpose – Part 1: To report on activities that ITU is undertaking in regard to Internet Protocol (IP)-based networks. – Part 2: To report on ITU activities related to Management of Internet domain names and addresses.	**Ref. doc.** PP-98 Res. 101 Res. 102 C99/51 C00/27 C00/27A C00/27B
3 Background Resolutions 101 and 102 (Minneapolis, 1998): Internet Protocol (IP)-based networks and management of Internet domain names and addresses.	
4 Recommendation The Council is invited to note this report.	
5 Implications The discussed activities are undertaken using existing resources.	

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Secretary-General

1 Internet Protocol (IP)-based networks

Introduction

1.1 Support for Internet Protocol ("IP")-based technologies continues to be a strategic factor in the design, development and use of telecommunication networks. This has had a significant effect on the focus of ITU's technical and policy activities in telecommunication standardization, radiocommunication and development. The result is continued expansion in the scope of ITU's IP-related activities since the adoption of Resolution 101 (Minneapolis, 1998) and the activities reported previously to Council in, *inter alia*, documents C99/51, C00/27 and C00/27A.

Highlights of ITU activities

1.2 In the standardization area, the World Telecommunication Standardization Assembly ("WTSA"), held in Montreal in 2000, made several major decisions on the focus of the ITU Telecommunication Standardization Sector ("ITU-T") in regard to IP standardization. Notably, WTSA Resolution 2[1] defines areas of broad study involving IP networks for ITU Study Groups ("SGs"). The list of each SG's Questions under study provides additional details. Resolution 2 also affirmed that Study Group 13 ("SG13") remains the lead ITU-T Study Group for IP-related matters. In this role, SG13 recently released Version 4 of the ITU-T "IP Project" description, providing additional information on the scope of ITU-T IP-related standardization.[2]

1.3 Other relevant highlights of the WTSA included the adoption of a new fast-track alternative approval procedure for technical standards,[3] the adoption of Recommendation D.50 on International Internet Connection,[4] and the establishment of a Special Study Group on "IMT-2000 and Beyond" ("SSG"). The focus of the SSG is to enhance network interoperability among IMT-2000 systems, as specified by the ITU-T and external standards development organizations, Partnership Projects, the IETF, and any other relevant forums. With respect to IP activities, SSG considerations will include the development of a long term common IP-based network architecture as well as IP-based internetworking for IMT-2000 systems and beyond.

1.4 Offering a format that encourages flexible participation, the ITU has organized a number of IP-related workshops and seminars during the last year. For example, in April 2001, the ITU-T hosted a workshop entitled "IP-Networking and MEDIACOM-2004", to advance studies on IP networks and multimedia.[5] Another recent example was the ENUM workshop held in January 2001[6] — a follow-up to the "IP-Telecoms Interworking" workshop held one year earlier.

1.5 ENUM[7] merits particular consideration. The protocol takes numbers from the existing international public telecommunication numbering plan (ITU-T Recommendation E.164[8]) and incorporates them into a Domain Name System ("DNS")-based infrastructure for identifying and finding networked resources. The development of a stable international legal framework for ENUM will require the assignment of authority over elements of the E.164 number space to domains and zones within the Internet's DNS, as well as the assignment of their ongoing management to one or more responsible authorities in each country. Work in Study Group 2 ("SG2") is progressing based on the assumption that the existing role and sovereignty of ITU Member States with respect to the allocation and management of their country code numbering resources, including the potential provisioning of those resources in the DNS, will be respected. As outlined in TSB Circular 26,[9] the ITU has initiated a number of activities to assist Member States in their consideration of national ENUM operational and administrative issues and ensure the integrity of the E.164 numbering plan. One key consideration is the operational management arrangements for ENUM infrastructure that respects the current roles and responsibilities for E.164 as defined in WTSA Resolution 20.[10]

1.6   In other policy-related initiatives, the ITU's Strategy and Policy Unit ("SPU"),[11] has continued its role by, *inter alia*, identifying emerging trends in the telecommunications environment; analysing their implications for the ITU and its membership; preparing position papers on issues of a strategic nature; promoting the growth and expansion of the Internet and the Information Society;[12] developing the New Initiatives programme,[13] including holding Strategic Planning Workshops, commissioning telecommunication case studies,[14] and analysing Internet policy trends; publishing reports including widely-read ITU Internet Reports;[15] and organising the World Telecommunication Policy Forum ("WTPF") on IP Telephony (see C01/14).[16]

1.7   With regard to IP networks development activities, the BDT, in June 2000, organized jointly with the Commonwealth Telecommunication Organisation,[17] an "African Internet and Telecom Summit" in The Gambia.[18] In May 2001, a similar event, the "Arab Region Internet & Telecom Summit" will be held in Oman.[19] The BDT has also continued its cooperation with SPU on case studies on the diffusion of the Internet in countries at different stages of development. In a related area, the BDT's annual survey on telecommunication regulation[20] included in its 2000 survey a section devoted to the Internet and IP-based networks. The survey was reported on in the third edition of "Trends in Telecommunication Reform: 2000/2001: Interconnection Regulation". This report was released on the occasion of the BDT's first development symposium for regulators held in November 2000 at ITU. Information and results of the symposium have been posted on the BDT's Telecommunications Regulation web site ("T-Reg On-Line")[21] and the next meeting will be held in December 2001 at ITU.

1.8   The BDT plans to launch a new regulatory initiative in the spring of 2001, the Global Regulators' Exchange ("G-Rex"): an online dialogue open to all the world's regulators and policy makers. Discussions, moderated by top-level regulatory officials from around the globe, will also include the regulatory challenges and opportunities posed by the Internet and IP-based networks.

1.9   The BDT Human Resource Development Unit has initiated recently the Internet Training Centers Initiative ("ITCI"), which aims to help developing countries deal with an acute shortage of Internet/IP networking professionals. The ITCI will last for three years and will establish 50 Internet/IP networking Training Centers in existing educational institutions in developing countries.

1.10   Related to electronic commerce, the BDT launched the Electronic Commerce for Developing Countries ("EC-DC") initiative in March 1998. Funded mostly by industry partners and with the support of several administrations, EC-DC projects are being deployed in more than 100 developing countries and represent one of the largest deployments of secure e-business infrastructure in the world. Within the framework of its four main objectives (infrastructure, policies and strategies, human resources development and partnership), activities have been undertaken in all world regions. In November 2000, a training workshop sponsored by industry partners brought together more than 500 delegates from 120 countries including full fellowships for 50 developing countries. To date, industry partners have contributed more than USD 5 million in in-kind contributions to the benefit of 100 developing countries. In a related activity, in the framework of the Memorandum of Understanding on electronic business signed with ISO, IEC and UN/ECE, ITU-T representatives attended the 5th management group meeting (May 2000) and the Business Object Summit (November 2000) in Geneva.[22]

1.11   Related to WTPF-2001, the IP Telephony Project for Developing Countries was started by BDT to assist developing countries in planning a strategy for migration to IP-based networks. One completed output is a free guide on "Managing and Developing Network Connections and Interconnections to national Internet Nodes".[23] Under this program, more than 100 engineers from developing countries will be trained in planning and managing IP Telephony networks in their countries by the end of 2002.

2 Management of Internet domain names and addresses

Introduction

2.1   Since the adoption of Resolution 102 (Minneapolis, 1998) on Management of Internet domain names and addresses and the activities reported previously to Council in documents C99/51, C00/27 and C00/27B, discussion continues on the evolution and management of the Internet DNS. The related activities of the Internet Corporation for Assigned Names and Numbers ("ICANN") are widely covered in the press and on Internet web sites. Several reference sites include, *inter alia*, ICANN at http://www.icann.org, ICANNWatch at http://www.icannwatch.com, ICANN.blog at http://www.lextext.com/icann/ and ICANN Channel Europe site at http://www.icannchannel.org/.

2.2   The conclusion of the report C00/27B stated: "In the year after Council 2000, there are at least two major issues that make it uncertain whether ICANN will be more successful than previous efforts in significantly evolving the DNS. The first is the long-delayed question of how and when new top level domains will be added — and who will have rights to control the registry databases that keep track of new domain names underneath them. The second is whether NSI will divest control of its registry or registrar roles (or neither) within the next year." These two issues were, as predicted, subjects of considerable attention since the last Council.

Overview of ITU activities

2.3   The process of selection of new Internet top level domains ("TLDs")[24] resulted in 47 applications to operate one or more new TLDs, of which 7 were finally selected for negotiation of agreements.[25] Of notable interest to the ITU membership were applications made to ICANN for TLDs to be used for telephony-related applications, including three applications from private commercial parties to operate a ".tel" TLD. In an email inquiry dated 19 October 2000, ICANN requested comments on these applications from the ITU.[26] The Secretary-General replied in a letter,[27] dated 1 November, 2000, citing several concerns and recommending that "it would be premature for ICANN to grant any E.164-related TLD application".

2.4   The selection process was followed by multiple requests to ICANN for reconsideration from rejected applicants.[28] One of these requests came from an entity named TELNIC,[29] which had been one of the rejected applicants for ".tel". Separately, TELNIC also wrote to ITU requesting further clarification on the ITU's letter to ICANN and requesting ITU to further evaluate its request. The Secretary-General replied and reiterating the same concerns, declined to further evaluate TELNIC's application.

2.5   The ITU has continued to participate in ICANN Government Advisory Committee ("GAC") meetings. The agenda, minutes, chairperson's report, and media communiqués for the 6th, 7th and 8th GAC meetings, held since Council 2000, are available on the GAC Secretariat web site.[30] The GAC has continued its work vis-à-vis delegation and administration of country code TLDs and discussion of implementation of new TLDs and internationalisation of the domain name system. The SPU is separately having discussions with several parties, including the Multilingual Internet Names Consortium, on issues related to multilingual DNS.

2.6   With regard to ITU's participation in the ICANN Protocol Supporting Organization,[31] an ITU forwarded candidate was elected to the Board of ICANN.

2.7   At the request of the IPv6 Forum,[32] the ITU is participating in an IPv6 Task Force developing an action plan aimed at ensuring the timely availability of IP Version 6, particularly with regard to IMT-2000 systems and beyond. It is planned that the ITU will host a meeting of the Task Force in December 2001.

2.8   ICANN announced on March 1, 2001, that it had been involved in negotiations with VeriSign/Network Solutions over a fundamental restructuring of the 1999 Network Solutions/ICANN/US Department of Commerce agreement.[33] The 1999 agreement envisaged either the structural separation of VeriSign/Network Solution's combined registry/registrar role by May 10, 2001, or termination of the agreement to operate the .com, .net, and .org registries by November 2003. ICANN's proposed modification of this agreement, endorsed by the ICANN Board on April 2, 2001, would allow VeriSign/Network Solutions to keep both its registry and registrar roles for other concessions. A number of concerns have been raised of both a procedural and substantive nature about these agreements that still require further approval by the US Department of Commerce.[34]

2.9   Last year it was reported that no progress had been made on the transfer of the .int TLD to the ITU despite extensive prior discussions with IANA and ICANN, substantial efforts on policy documents, coordination with other intergovernmental organizations, and review by Council. Again this year, no progress can be reported.

2.10   The discussion on ENUM in Section 1.5 potentially renews the question of the appropriate framework for management of naming and addressing in an increasingly converged telecommunications and Internet/IP environment. ICANN, which derives its legal authority principally from the United States government, has ostensibly policy control over the DNS, while the ITU (through the TSB Director and its Member States) have policy control over the E.164 numbering plan and other addressing aspects of international telecommunications. It is likely that implementation of ENUM may introduce further review of public policy objectives vis-à-vis the DNS and the E.164 numbering plan at national and international levels.

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[1] http://www.itu.int/itudoc/itu-t/wtsa-res/res2.html

[2] http://www.itu.int/ITU-T/com13/ip/index.html.

[3] http://www.itu.int/ITU-T/aap/index.html

[4] http://www.itu.int/itudoc/itu-t/approved/d/d50.html

[5] http://preweb.itu.int:2001/ITU-T/workshops/ipnetwork_mediacom2004/index.html

[6] http://www.itu.int/infocom/enum/workshopjan01/index.html

[7] See http://www.itu.int/infocom/enum/ for an extensive overview of ENUM activities.

[8] ITU-T Recommendation E.164 titled "The International Public Telecommunications Numbering Plan" specifies the format and types of use of public telephone numbers.

[9] http://www.itu.int/itudoc/itu-t/circ/01-04_1/026.html

[10] http://www.itu.int/itudoc/itu-t/wtsa-res/res20.html

[11] http://www.itu.int/osg/sec/spu/

[12] See WSIS discussed in C01/XX.

[13] http://www.itu.int/ni/

[14] http://www.itu.int/ti/casestudies/

[15] http://www.itu.int/osg/sec/spu/publications/

[16] http://www.itu.int/wtpf/

[17] http://www.cto.int/

[18] http://www.itu.int/africainternet2000/

[19] http://www.itu.int/arabinternet2001/

[20] http://www7.itu.int/treg/Events/Survey/survey.asp

[21] http://www.itu.int/treg/

[22] http://www.itu.int/ITU-T/e_business/index.html

[23] http://www.itu.int/ITU-D/bdtint/Publications/administ.htm

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[24] http://www.icann.org/tlds/app-index.htm

[25] http://www.icann.org/tlds/

[26] http://www.icann.org/tlds/correspondence/ietf-iab-itu-email-19oct00.htm

[27] http://www.icann.org/tlds/correspondence/itu-response-01nov00.htm

[28] http://www.icann.org/committees/reconsideration/

[29] http://www.icann.org/committees/reconsideration/telnic-request-24nov00.htm

[30] http://www.noie.gov.au/gac/

[31] http://www.pso.icann.org/

[32] http://www.ipv6forum.com

[33] http://www.icann.org/nsi/nsi-agreements.htm

[34] http://www.icann.org/correspondence/doc-to-icann-24apr01.htm