

Basic Information on the ITU-T IP-Traceback and International Caller-ID Capability Initiatives

Two highly important cybersecurity standards initiatives in ITU-T are now underway as a result of recent approvals in Study Group 17 (Security) on 18 April 2008 and Study Group 2 (Operations) on 15 May 2008. These include IP-traceback and International caller-ID. The former pertains to connectionless transport generally, while the latter is specific to voice telephony service. This note identifies the materials and summarizes the developments related to these initiatives.

IP-Traceback

The subject of IP-traceback first emerged at the SG17 April 2007 meeting in the form of a tutorial presentation by one of the Study Group's Vice-Chairs, Dr. Chen of ZTE.¹ The presentation was comprehensive – treating definition, requirements from customers, review of current technologies, standardization, and conclusions that included the development of NGN with a strong traceback capability, and establishing traceback considerations in developing any new standards.

This tutorial was followed in July 2007 by the introduction by Telcordia researchers of IP traceback as a key Identity Management use case as part of the operational response to cyber attacks.² The use-case was subsequently included as a basic IdM Use-Case in the Focus Group Reports.³

In March 2008, the China Academy of Telecommunication Research (CATR) introduced a trio of IP traceback related documents, (C271,⁴ C268⁵ and C266⁶, including a new recommendation x.tb-ucr, *Traceback use case and requirements* that defines scope of IP Traceback and other traceback techniques. These contributions were reviewed and noted in the Rapporteur's report for Question 6/17 (Cyber Security) at its May meeting.⁷ Working Party 2 of which Q6 is part, subsequently discussed the draft traceback recommendation and agreed that a work item should be started as in X.tb-ucr based on Doc. SG17 TD4068 and the following editors assigned.⁸ See Annex 1.

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¹ See Dr. Jiayong Chen, ZTE Corporation, *IP Traceback Technology and its Standardization*, 15 April 2007.

² See Lesnewich, Lordi, and Singh, *IdM Example Use Case – Operational Response to Cyber Attacks*, Focus Group on Identity Management, FG IdM Doc 070, July 2007.

³ See Sec. 13.7 in Sec. 13, *IdM Security and Identity Patterns*, Report on Identity Management Use Cases and Gap Analysis, Doc. SG17 0295 (Sep 2007) at 106.

⁴ See Liang Wei and Xie Wei, CATR, MII, China, *Proposed a study skeleton for new work item about IP traceback*, Doc. Com 17-C271, March 2008.

⁵ See Liang Wei and Huirongi Tian, CATR, MII, China, *Proposal for the scenarios and requirements of IP traceback*, Doc. Com 17-C268, March 2008.

⁶ See Liang Wei and Huirongi Tian, CATR, MII, China, *Some information on trusted IP carrier network*, Doc. Com 17-C266, March 2008.

⁷ See Rapporteur, *Summary of Draft Recommendations for ITU-T Q.6/17*, Study Group 17, Geneva, 7-18 April 2008, TD 4089 Rev.1

⁸ See Sec. 4.3, *Report of Working Party 2/17, Telecommunication Security*, Study Group 17, Geneva, 7-18 April 2008, TD 4090.

In addition, Q6/17 participated in reviewing the questions for the next study period and incorporated IP traceback in the new text of Q.K/17 as a main study item.⁹

The next opportunity for this work to move forward will occur at the Q6/17 rapporteur group meeting scheduled at Heidelberg, 21-25 July, and 15-19 Sep at Geneva.

International Caller-ID

In January 2007, China in a contribution to ITU-T Study Group 2 noted that with the development of technology and services, many Administrations were facing a major challenge, i.e., tracing the source of voice telephony calls.¹⁰ The contribution notes that one of the most efficient measures to trace the source of the call is by calling party number, however, calling party number delivery in VoIP and international calls is not implemented, which has seriously obstructed the attack of crime and terrorism. In order to help member states effectively trace international calls, China proposed a new standards work item, Rec. E.cpdn, (now E.157) Calling Party Number Delivery Service between International Networks.

China's proposal actually followed significant new statutory law enacted in both the European Union and the United States to require the same capabilities.

In January 2006, a provision in the Violence Against Women Act (VAWA) became law. The Act's provisions attacked cyber-stalking by defining the Internet and its applications as "telecommunication devices" under the jurisdiction of the Federal Communications Commission (FCC) - thus extending existing law making it a federal crime to send communications for the purpose of annoying or harassing without identifying oneself. The result effectively created a USA Federal mandate for Internet CallerID.¹¹

In March 2006, the European Union adopted its Data Retention Directive that explicitly requires the capture and retention of "the calling telephone number" (or its equivalent for VoIP) for all fixed network and mobile telephony communications.¹²

An editor was appointed – Mme. Jie Zhang of CATR <Email: zhangjie@mail.ritt.com.cn> – and a Correspondence group on Calling Party Number Delivery created with an associated timeline established for the development of baseline text.¹³ At the Oct-Nov 2007 meeting of SG2, the editor of E.cpdn, provided a draft text which was revised at the meeting.¹⁴

⁹ See 4.1.4, *Report of Q.6/17*, Study Group 17, Geneva, 7-18 April 2008, TD 4073 Rev.2.

¹⁰ See P.R. China, *A proposal for setting up a work item to help calling party tracing internationally*, SG 2 Doc. C38, Jan 2007.

¹¹ See Sec. 113 Preventing Cyberstalking, Violence Against Women and Department of Justice Reauthorization Act of 2005, H.R. 3402 (amending Paragraph (1) of section 223(h) of the Communications Act of 1934 (47 U.S.C. 223(h)(1)).).

¹² See Art. 5, Categories of data to be retained, Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks and amending, Directive 2002/58/EC L 105/54, Official Journal of the European Union, 13 Apr 2006.

¹³ See *Timeline for Correspondence on Calling party Number Delivery*, SG2, Doc. TD142 Rev. 1 (WP1/2), Geneva, 30 January - 8 February 2007.

¹⁴ See Zhang Jie (CATR), *International Calling Party Number Delivery Service*, Doc. TD 176 Rev. 2 (WP1/2), Geneva, 30 October - 8 November 2007. See also, *Report of Working Party 1/2*, Geneva, 30 October – 8 November 2007, Doc. COM2-R19, Dec. 2007.

Subsequently, at the May 2008 meeting of SG2, the draft text was further progressed and a decision reached to adopt the draft recommendation for determination, denominated as E.157 and based on SG2 WP1-260.¹⁵ See Annex 2.

Annex 1 – IP Traceback



T05-SG17-080407-T
D-WP2-4068!!MSW-E

Annex 2 – International CallerID



T05-SG02-080506-T
D-WP1-0260!!MSW-E

¹⁵ See Report of the ad-hoc sessions on international calling party number delivery, Doc. TD 260 (WP1/2), Geneva, 6-15 May 2008. See also, International Calling Party Number Delivery, Doc. TD 220 Rev. 1 (WP1/2), Geneva, 6-15 May 2008; Liaison Statement to SG3, SG11, Recommendation E.cpd – International calling party number delivery, Doc. TD 149 Rev. 1 (PLEN/2), Geneva, 6-15 May 2008; Report of Working Party 1/2, Doc. TD 130 (PLEN/2), Geneva, 6-15 May 2008.