Submission to the European Conference of Postal and Telecommunications Administrations (CEPT) Committee for ITU Policy (ComITU) on Calling Line Identification in the International Telecommunication Regulations

22 May 2012
Source: RIPE NCC, Internet Society, ICANN

In making this submission, the RIPE NCC, the Internet Society and ICANN are voicing the views and concerns of certain members of the Internet technical community, including those who design, build and operate networks based on IP technology.

Certain Member States have identified Calling Line Identification (CLI) as an issue to be dealt with specifically in the text of the revised International Telecommunication Regulations (ITRs) [see some of the proposals for additions to Article 3]. While such a measure would have clear value to certain administrations that operate telephony services using E.164 numbers, we would like to highlight the inherent technical problems that might be created should such a regulation be applied to Internet traffic.

We acknowledge that proposals in this area may not be targeted at or intended for application to Internet network operators and the traffic that they manage. However, the language in the proposals is broad enough that it will have unintended and unwelcome consequences for the viability and efficiency of Internet traffic moving across international networks.

CLI principles cannot be applied to IP addresses or other Internet names or addresses as they are not fixed identifiers and must remain flexible in terms of their allocation and use. Furthermore, there is no stable and agreed definition of an equivalent to CLI for IP networks. There is no agreement on what constitutes an origin identifier in Internet telephony networks, and even if there were, the technology required to deliver such an identifier securely end-to-end does not exist in many cases. Non-E.164 identifiers are commonplace in Internet telephony services operating today.

Examples of the technologies and systems that might be affected by a rigorous implementation of CLI regulation (and where the actual result may not match the intended outcome) include:

- Virtual private networks (VPNs), which are used by many enterprises and governments when operating their own networks;
- Source address obfuscation in networks using Network Address Translation (NAT), especially carrier-grade NATs that are used in IPv4-to-IPv4 contexts (to grow networks when public addresses are not available) and in IPv4-to-IPv6 contexts (where IPv6-only nodes need to connect to IPv4-only nodes), and;
- "TOR"-type technology, which anonymizes Internet use and is an important tool for a variety of legitimate purposes, including law enforcement, privacy and security.

Even if we assume that exemptions or reservations were made for such applications (or that the value of such applications was exceeded by the value of regulating CLI at treaty level), the concept of CLI is deeply rooted in the public switched telephony network architecture. IP technology does not offer a generic facility for CLI, and its implementation on IP networks would create a range of problems, whose solutions would impose significant costs to network operators and Internet users. Maintaining and recording mapping information may be possible in some limited cases but delivering the mapping information in real-time to the terminating node or network (as happens when CLI is implemented on existing public switched telephony network services) is currently not possible. Furthermore, the great diversity of identifiers used in Internet telephony networks today would make such mapping infrastructure highly prone to failure.

It is also important to note that in the Internet context, many of the network operators are not national telecommunications companies – many small to medium enterprises (banks, universities, small organisations) run their own networks, and the costs associated with implementing CLI in an IP environment would have to be borne by those smaller operators.

While the ITRs are primarily intended to apply to international telecommunications arrangements, it is vital that Member States remain wary of the unintended consequences that new regulations may have on the operation and development of the Internet.

Given that certain Member States see value in regulating the implementation of CLI for telephony services at the ITR level, we encourage the CEPT to propose/support language that limits the applicability of the regulation to public switched telephony network services using E.164 numbers.

Current CEPT proposal:
ADD CEPT/XX/3.5
3.5 Member States should, through various channels open to them, encourage network operators and service providers:

- To implement CLI features, where technically possible
- To use appropriate standards when implementing CLI features
- To ensure that integrity of CLI is maintained end to end
- To ensure that the requirements associated with data protection and data privacy are met.

Suggested CEPT proposal:
3.5 Member States should, through various channels open to them, encourage network operators and service providers:

- To implement CLI features in public switched telephony network services using E.164 numbers, where technically possible
- To use appropriate standards when implementing CLI features
- To ensure that integrity of CLI is maintained end to end
- To ensure that the requirements associated with data protection and data privacy are met.