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1200 G Street, NW
Suite 500
Washington, DC 20005
www.atis.org

Paula Jordan
Gary Sacra
LNPA WG Co-Chairs

**Packet Technologies and
Systems Committee
(PTSC)**

Subject: North American Numbering Council Local Number Portability
Administration Working Group (NANC LNPA WG) Request for
Information Regarding VoIP Service

Dear Paula and Gary,

Bob Hall
Chairman
bhall@labs.sbc.com

Joe Zearth
Vice Chairman
zearth@nortel.com

Jean-Paul Emard
ATIS Director, Industry Forums
+1 202-434-8824
jpemard@atis.org

Susan Carioti
ATIS Manager
scarioti@atis.org

Steve Barclay
ATIS Manager
sbarclay@atis.org

*"Developing Standards
that Drive the Business
of Communications and
Information Technology"*

The ATIS PTSC has reviewed your correspondence of March 10, 2005. In response, the PTSC provides the following observations and concerns with regard to the proposal to capture Uniform Resource Indicator (URIs) in the NPAC database at this time. As explained more fully below, the PTSC does not see a need for a modification of the NPAC database to allow for the capture of URI to 10-digit number associations.

While the PTSC notes there is a necessity to associate URIs with 10-digit numbers, it does not agree that this association should occur in the NPAC database for a variety of reasons. First, the PTSC notes that the presence of URI to 10-digit number associations in the NPAC database, if applied only to VoIP ported and pooled numbers, would not be sufficient to meet industry needs.¹ A change to the NPAC database, therefore, would not eliminate the need for an additional database to capture URI to 10-digit number associations for numbers other than VoIP ported and pooled numbers. An additional database for these VoIP non-ported and non-pooled numbers would mean that redundant information was being stored.

Second, the existence of two databases detailing URI to 10-digit number associations would create a potential for confusion and/or the generation of conflicting data. The potential would be even greater if the different locations have different control mechanisms (for example, if the carrier controls assignment in the NPAC database, but the end user controls assignment in ENUM).

Third, there are a number of issues that warrant further investigation before the change to the NPAC database could be made. For instance, the requirement to capture URIs in the NAPC database could result in a need for additions or changes to the signaling standards for the PSTN environment. The PTSC also notes that number portability requirements for the VoIP environment have yet to be determined. Implementing a change to the NPAC database before the number portability requirements for the IP environment have been finalized may have a significant negative impact on other future network standards and implementations.

¹ The assumption in your correspondence that most numbers used for VoIP service will be ported or pooled numbers has yet to be validated and it is not clear to the PTSC that this will necessarily be the case. Regardless, any implementation would need to deal with cases where the VoIP service was not a ported or pooled number.

Finally, the adoption of the proposal to capture URIs in the NPAC database may also contradict the packet technology interconnection work being completed by the PTSC. For instance, the PTSC is currently developing a standard for IP-to-IP Network Interconnection, to initially support voice services but eventually to encompass multimedia services [[IP-IP Network Interworking document](#)]. This effort is based on SIP as the signalling protocol and involves the use of URIs in call set up. This standard assumes the use of ENUM or ENUM-like services.

In the event that ENUM is not immediately available and a code-based routing approach is maintained, the PTSC's current IP-IP NNI working document assumes that URIs would be associated with Central Office codes. Based on this assumption and the existing number portability model (as detailed in T1.TRQ2-2001 and T1.TRQ3-2001), it is expected that an NP query would first determine the proper CO code for routing. Actual routing information, in this case -- the URI, would be associated with the CO code rather than returned in the NP query. The working document indicates several potential models for distribution of the CO code -- URI association not involving the NPAC.

The PTSC also notes that current NP query mechanisms, as described in the above-referenced TRQs, do not support use of URIs. The PTSC has no plans to revise existing NP standards in this direction. To the degree that non-SS7 (i.e., IP protocols) are employed for call routing, IP-based mechanisms for data distribution, such as those based on the DNS, would seem more appropriate.

The PTSC also notes that the extension of the NPAC database to include URIs may cause longer term problems for next generation networks due to: (1) the potential for confusion/conflicting data; and (2) the impact on the way in which pooled numbers are retained in the NPAC database that could require an expansion of the pooled number ranges.

In summary, the PTSC believes that the NPAC solution may be a potentially less attractive solution to that being generated as part of the ENUM process. At a minimum, the PTSC urges the LNPA not to adopt this solution without a clear understanding as to how it relates to ENUM.

We appreciate the opportunity to provide our input on this matter and would be happy to arrange a more detailed discussion of our work. If you have any questions or concerns, please contact me on 512-372-5842 or my Vice Chairman Joe Zearth on 613-765-8481.

Sincerely,

Bob Hall
Chairman, PTSC

CC: Jean-Paul Emard, ATIS jpemard@atis.org
Susan Carioti, ATIS scarioti@atis.org
Steve Barclay, ATIS sbarclay@atis.org
Tom Goode, ATIS tgoode@atis.org