

Marketing Info No. 28 - Local Number Portability

Introduction to LNP

Local number portability (LNP) is the facility which allows a subscriber to switch their service provider without having to change their phone number. This feature has been used in Mobile networks for some time but with CPS and CS (Carrier Pre-Select & Carrier Select) it is becoming more common in fixed networks too.

LNP Problems for the Operator

The problem with a ported number is that it looks like a number belonging to Operator X while in fact it belongs to Operator Y. Ignoring this fact may result in profit loss for the switch operator:

If the call is routed to Operator X (where it seems to belong from the analysis of the number format) it will eventually reach Operator Y (to which it now belongs after LNP) but the Operator X will charge it at a different rate from its own numbers: - it will apply an interconnection rate plus a premium for the traversal of its network. The margins on routing calls are so tight that this can make the difference between profit and loss. This means that rating is made more complicated.

The introduction of LNP in a country implies that all local carriers are able to determine the operator to which a number belongs and apply the appropriate routing and rating. This is not necessarily the case for a switch operator who depends on the local carriers to terminate their calls.

- There is no standardized method for determining if a number has been ported or not.
- There is no international centralized database and no standardized query or update protocol.
- The process is usually based on the distribution of updated lists of ported numbers. Each operator who needs to implement LNP will setup their own database and update their own tables.
- LNP affects both routing and rating: the ported number must be routed and rated according to the operator to which it belongs and not according to its number format.
- Unfortunately, the size of the LNP database is not dependent on the customer base of the switch operator: each of its customers can call any number in the country and thus the LNP table must contain all the ported numbers in the country, potentially millions of records.
- LNP not only affects national numbers but also international numbers: due to tightened margins in today's telecom world, there is usually a difference between the cost of calling a number of Operator A and a number of Operator B in a foreign country, even if the switch is not directly connected to any of these operators. This means that the LNP table may have to contain the ported numbers of neighbouring countries.

The WTL Solution for LNP

Due to the current lack of standardisation, each operator who needs to implement LNP will setup their own database and update their own tables. In the IPNx, this is done with the new LNP table. The usual WTL mechanisms exist for updating this table: WTAgent protocol, batch file, RDB protocol, etc. The LNP table works by simply making a link between a number in international format and a carrier code. The switch will search for each destination telephone number in the LNP table before rating and routing. If the number is found, it will be replaced by the carrier code of the carrier to whom the number has been ported for the purpose of rating and routing.

Benefits of the WTL Solution

Speed: Fast search techniques mean that the LNP table is checked once at the beginning of the call, adding only microscopically to the call setup time.

Flexibility: Whole ranges of numbers may be entered (for example, numbers 3227227200 – 3227227299) or, if only part of a range is ported, individual numbers may be entered (for example, numbers 3227227200-3227227249 would be entered individually in the table).

Ease of Update: Using WTL's established methods for updating the IPNx switch tables, the process of adding new ported numbers to the LNP table can be made very easy and/or automated.

Bulk Update: it is possible to use a batch file to add the latest ported numbers.

Capacity: There is no limit to the number of entries in the table – LNP databases for multiple countries could be covered.

Resilient: The LNP table is covered by WTL's Redundant Database back up technology.

Traceability: If a number is ported, the carrier code of where the call was routed will appear in the CDR field 42 (B-leg zone).

Generic: This feature is available for all services and all trunk types.

Callback Support: The check on the LNP table is done on all B-leg numbers, and also on A-leg numbers for callback services.