

Utilizing LNP for Disaster Recovery Call Termination and Mitigating Possible Originating 911 Issues

Background

Local Number Portability (LNP) is a viable method of restoring incoming calls to a customer that has lost service in a disaster. Although using LNP to move telephone numbers outside the rate center in such instances can create certain issues, (for instance with billing), problems are somewhat muted by its limited use and the temporary nature of this recovery service. First, the types of disasters in which LNP are used in recovery efforts, where a switch is disabled, are rare. Second, the nature of the service itself is temporary, and generally limited by regulators – typically for 90 days or less – for carriers as they repair their networks.

When such a disaster scenario occurs, and LNP is utilized to port outside of an existing rate center, the potential exists that a call originated to 9-1-1 from that ported number may be adversely affected in certain circumstances.

The following document outlines the process for LNP in such cases, and offers suggested categories and impacts for each. It is not all-inclusive, and does not address possible ALI (Automatic Line Identification) issues. It is provided for informational purposes only. All decisions regarding LNP for disaster services must be decided upon by individual companies with a full understanding of their respective network configurations. Further, use of the LNP is governed by certain legal restrictions, rules, and regulations – and each company is responsible for adherence to all such restrictions, rules and regulations.

Process

When used for disaster recovery efforts, porting a customer's number within an NPA and/or LATA is more common than moving the number outside of an NPA or LATA. This is especially true in states with only one or two NPAs. Numbers have, however, been ported successfully outside of the local area in a variety of disaster situations.

In certain instances, when porting outside of the local area, and where the ported number ANI is utilized when originating a call to 911, a problem may be created when delivering the originating E9-1-1 calls to the correct Public Safety Answering Point (PSAP). In almost all cases, a 9-1-1 originated call should default to a designated PSAP.

Categories

Most numbers ported for a disaster fall into these general categories and may have the following impacts on 911:

Wireless	Numbers re-homed to other switches: no 911 impact. (As was often the case with Katrina).
VoIP	Numbers ported from one softswitch to another: no 911 impact if VoIP provider meets the FCC criteria
Wireline - General	<ul style="list-style-type: none">Numbers ported to wireless service: no 911 impactNumbers ported to VoIP service: no 911 impact if VoIP provider meets the recent FCC criteriaNumbers ported to another switch serving the same rate center: no 911 impact

<p>Wireline Ported to a wireline switch outside of original rate center</p>	<p>Ported numbers which will not be used for outbound calling:</p> <ul style="list-style-type: none"> a. Ported to a switch where they can be given voice mail: no 911 impact. b. Ported to a switch where they can use switch re-direct services: no 911 impact. c. Ported to a switch where they can call forward to another number: no 911 impact. d. Ported to a switch where they can use multi-ring services: no 911 impact. <p>In cases a-d above, there is no impact to 911 as long as the ported number ANI will not be delivered to the PSAP, but rather the correct ANI of the originating telephone number for that rate center.</p>	<p>Ported numbers which may be used for outbound calling:</p> <ul style="list-style-type: none"> a. Ported to a switch where the customer has a Direct Inward Dialing (DID) service: usually no 911 impact. <ul style="list-style-type: none"> • ANI delivered to PSAP is usually local main DID number • May be dependent on type and configuration of PBX serving DID b. Ported to a switch where customer has a PBX. <ul style="list-style-type: none"> • May be dependent on type and configuration of PBX: may impact 911. c. Ported to a switch where they treat the ported number as a native number and have facilities for the customer: may impact 911 <p>In cases a and b above, PBXs do one of several things when 911 is called:</p> <ol style="list-style-type: none"> 1. Send the main number as the ANI 2. Have direct 911 trunking (very common for government PBXs) 3. Send the ported number ANI. <p>Where the ported number is sent as ANI, problems in the 911 system may occur.</p>
------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

In summary, there is a subset of ported numbers that may cause 911 problems; however, in all cases, calls will reach a PSAP. Education of subscribers, and advance planning in PBX provisioning for example, may be needed.

For Additional Guidance

It is incumbent upon you to make sure your customers are aware of any possible 911 limitations so that they (or you) may take appropriate action to mitigate any problems that may arise. For more information, please contact Barry Bishop at (571) 434-5597.

