

PathFinder

GSMA's NUMBER TRANSLATION SERVICE



Number portability correction and ENUM hosting services

As the industry moves from traditional services to advanced IP services like RCS and Voice over LTE, the telephone number remains the identity of choice for fixed and mobile subscribers alike. With the increased choice of services, Service Provider Interconnect has become an increasingly challenging environment requiring advanced traffic routing and delivery solutions. Number portability means that an E.164 no longer provides guaranteed identification of the destination network – the destination for a number can change at any time. In addition, there is no indication from the dialled number whether a subscriber is on a legacy or Next Generation Network. Service Providers and Carriers need destination information prior to routing in order to deliver traffic via the best economic path in the correct technical format.

Number registries provide the answer but today's number portability registries are non-standard, difficult to access and don't facilitate NGNs. The GSMA's work on PathFinder is designed to combat these challenges by providing an aggregate source of number portability data and providing a standard, interoperable and scalable Carrier ENUM registry solution for NGN interconnect.

What is PathFinder?

PathFinder is a global E.164 Telephone Number registry for real time number lookup and interconnect destination discovery.

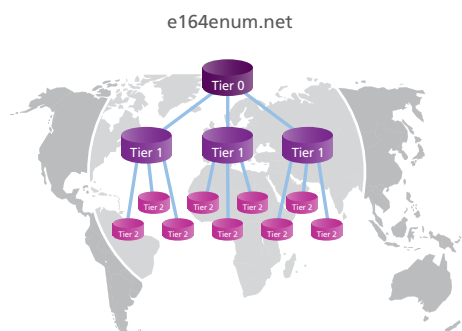
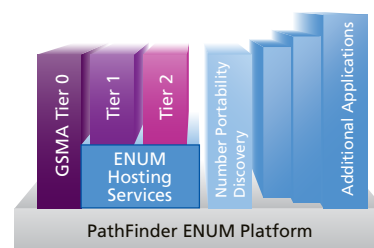
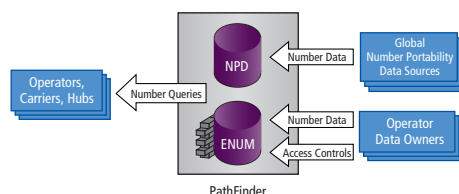
PathFinder is a cloud based GSMA managed service operated by Neustar. The service facilitates legacy and IP interconnect by translating telephone numbers to a destination identity, Global Service Provider ID, or a routable endpoint e.g. an SBC, or IMS gateway URI. With rich policy and number data customisation capabilities, PathFinder allows operators to implement unique commercial interconnect strategies whilst employing standard ENUM technology.

PathFinder is available to all participants in the interconnect supply chain including Mobile and Fixed Network Operators, Transit Carriers/IPXs, Hubs/Aggregators, content/application providers and other trading partners.

PathFinder Registry Services

Number Portability Discovery Service: PathFinder provides network destination information for the entire global number plan including portability corrected destination information for the majority of countries where number portability is implemented. From one source, the user can gain an accurate indication of the true destination of a number anywhere in the world in real time.

ENUM Hosting Services: PathFinder provides facilities for Service Providers to host and publish Carrier ENUM data on a global basis. Data can be provisioned as Tier 2 end point information or as Tier 1 pointers to other Carrier ENUM registries. With multiple nodes globally, PathFinder allows Service Providers to position their data close to their interconnect partners for low latency access and removes the overhead/risk of exposing the home network registry. Operators use access controls and customisation tools to configure which profiles of data are exposed to which partners.



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Compliance

GSMA IR.67
(DNS Guidelines for Operators)

ENUM and DNS RFCs: RFC1034, RFC1035, RFC1982, RFC1995, RFC1996, RFC2181, RFC2308, RFC2671, RFC2672, RFC2782, RFC3402, RFC3403, RFC3597, RFC3761, RFC4592, RFC4694, RFC4769, RFC4904

URI Schemes

H323	Presence
IM	SIP
Mailto	SMS
MMS	Tel

NAPTR Service Tags

E.212 MCC/MNC
Service Provider Network
Number Portability Dip Indicator

Applications

Number Portability Correction
NGN Interconnection for IMS/LTE/ RCS
ENUM Data Hosting

APIs

SOAP XML Provisioning
ENUM Query
Zone Transfer

Performance/SLAs

Query Response – 20 ms
Query Availability – 99.999%
Provisioning Availability – 99.9%
Capacity – 5 Billion+ TNs
Support – 24 x 7 x 365

PathFinder Core Functionality

PathFinder provides key functions for efficient number resolution management:

- **Number portability Discovery:** Out of the box, PathFinder contains all industry data for service providers in the global numbering plan, including portability corrected number assignments where available.
- **Provisioning:** PathFinder allows customers to publish their data via two types of interfaces: a SOAP/XML machine to machine API and secure Web-based GUI.
- **Hosting Service Policy tools:** PathFinder allows provisioning operators to define different views of data for specific parties and offers secure access controls. Hosted ENUM data remains under the ownership and control of the provisioning operator.
- **ENUM Query:** PathFinder uses the standard IETF ENUM interface allowing all numbering data to be consumed via a single build for purpose interface technology
- **Zone Transfer Service:** PathFinder enables customers to import the global Tier 0 data from the PathFinder ENUM tree into their own DNS infrastructure.
- **Customisation:** PathFinder interfacing and data architecture can be adapted to specific network architecture scenarios.

Key Attributes & Benefits

- **Global Reach:** Market leading global coverage of global number plans, number portability data and ENUM information
- **Efficiency:** A one stop shop for numbering data via a single standard interface
- **Performance:** high availability, cloud based solution allowing low latency local access to global data
- **Seamless Migration:** Allows users to access numbering information for accurate interconnect routing as numbers port and subscribers migrate to NGN.
- **Interoperability:** Using a standardised interface and supported by an Industry Partner Certification Programme, PathFinder aims to promote simple interoperable number look up data exchange on a global basis
- **Flexibility:** Rich Policy Engine providing a wide set of dynamic criteria, allowing configuration of which trading partners in the supply chain will discover which routes, and enabling address and service attribute discovery based on business arrangements.

Contact Us:

For more information, and to register your interest in the GSMA PathFinder Service, please email pathfinder@gsm.org