Application Brief

PathFinder

GSMA's NUMBER TRANSLATION SERVICE

ENUM Hosting Services

Next Generation Interconnect

With attractive new services such as Rich Communications Suite, High Definition Voice, Video Calling and LTE entering the market and legacy network technology reaching end of life, Service Providers are accelerating plans to migrate to SIP/IMS based networks. For Next Generation services to provide value for customers and reach their full business potential, Next Generation Networks need to be fully interconnected – the network effect.

NGNs have tended to be deployed as individual islands rather than a unified, seamlessly interconnected cloud. There are thousands of Service Providers across the globe using a combination of legacy and IP interconnect to exchange traffic and it is becoming increasingly difficult using next hop routing techniques, which do not identify IMS destinations or ported numbers, to effectively and efficiently deliver traffic end to end in the correct format.

GSMA Carrier ENUM provides an efficient standardised solution for interconnect routing allowing Service Providers to look up information on a call by call basis during the routing process and discover the portability corrected destination and technology attributes of the dialled number. This "Look Up" model saves Service Providers from duplicating the costly task of maintaining local information about global numbering data and scales easily to include the global telecommunications community.

GSMA has been working to facilitate the development of a global Carrier ENUM community open to Fixed, Mobile, International Transit and Hub providers. PathFinder, a GSMA Managed Service operated by Neustar, acts as a queriable Root Directory and an ENUM hosting facility, allowing Service Providers to find and consume ENUM resources around the world and/or place their data conveniently near their partners to provide a high performance, low latency look up service. PathFinder benefits include being a simple to use, cost effective and secure number registry solution enabling reliable, high quality, end to end interconnect on a global basis.

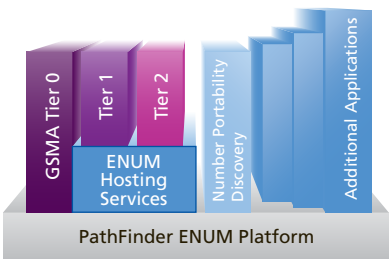
PathFinder ENUM Hosting Services

The PathFinder ENUM Hosting Service allows a number holder, fixed or mobile, to store and publish Tier 1 and Tier 2 Carrier ENUM data towards its interconnect partners. The data owner provisions interconnect information against the Telephone Numbers it serves and configures access controls to determine which partners can query the data.

PathFinder is offered as a secure cloud service, with multiple query nodes distributed globally, allowing the data owner to place data near its partners for high performance low latency access.

Number holders can publish either routing Information (Tier 2 data) or the address of a private Carrier ENUM registry (Tier 1 data) where routing information can be found.

When a subscriber makes a call the originating operator, carrier or hub uses their local PathFinder node to look up ENUM data stored against the target number to inform routing. ENUM information enables routing engines to make the best economic route selections and select the correct media format for the destination subscriber before the traffic is issued.



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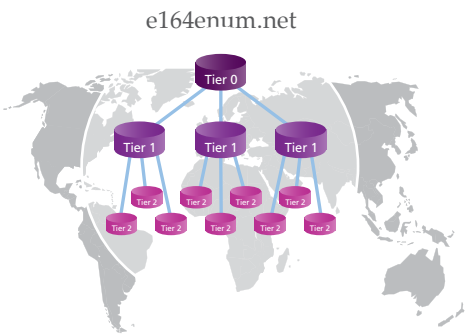
Service Elements

ENUM Data Hosting: PathFinder allows Service Providers to host and publish ENUM Tier 1 or Tier 2 data on a per number, or number range basis. Information for a variety of Service Types e.g. SIP, IM, Presence, SMS, MMS, PSTN can be stored for each number. Data profiles can be created and made visible to different interconnect partners allowing commercial policy to be implemented through ENUM data. Provisioning is accomplished via two types of interfaces: a SOAP/XML machine-to-machine API and secure Web-based GUI. Provisioning includes access controls allowing the data owner to control which partners can access the data.

Query Service: The service allows users to query a TN resulting in the stored data being returned subject to the data owner's access policy. ENUM results may contain a NAPTR(s), Name Server or a customized data response depending on the policy of the provisioner.

GSMA Carrier ENUM Tier 0: PathFinder contains the GSMA Carrier ENUM Tier 0 which acts as the GSMA ENUM root directory. Queries sent to this starting point are offered a delegation path to Carrier ENUM data world wide.



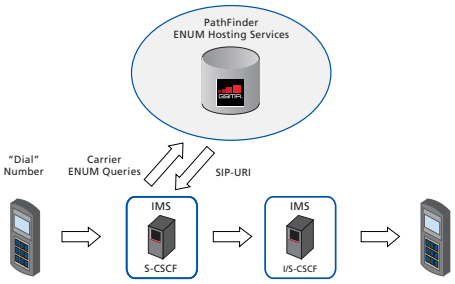
Zone Transfer: PathFinder enables customers to import the GSMA Carrier ENUM Tier 0 data from the PathFinder ENUM tree into their own DNS infrastructure.

Registry – Customization & Personalization

The service offers a Rich Policy engine which enables the data owner to customize publishing. This allows them to open access to specified trading partners according to business arrangements.

The service provides the flexibility for a customer to tailor different responses to different parties. This allows the data owner to apply policy on a per corridor, route or partner basis.

The Service is extensible, allowing customers to configure ENUM NAPTR parameters. This provides the ability to introduce new industry standards and/or proprietary services rapidly to the market.



Key Benefits

- PathFinder hosting and querying services offer a, rapid, off the shelf, cost effective way to provide NGN routing and addressing information to interconnect partners under secure and controlled conditions.
- ENUM enables destination attribute discovery before routing decisions are taken enabling reliable and accurate end to end IP interconnect without costly TDM fallback. This preserves NGN functionality for subscribers.
- ENUM enables operators to optimally use their carrier and interconnect relationships.
- Carrier ENUM provides a standardized, unified approach to managing TN/IP addressing that leads to immediate interoperability between networks and easy adoption.
- PathFinder policy tools allow users to implement diverse commercial requirements on a partner by partner basis.
- DNS based ENUM technology relieves costly SS7 routing solutions, solves number portability standardisation challenges and reduces routing administration costs.
- Carrier ENUM and PathFinder allow subscribers to continue to use the familiar TN as a single identity across all of their communication services as operators introduce richer features through IP technology.
- Carrier ENUM is a critical element for next generation services enabling operators to globally interconnect LTE, IMS and RCS infrastructure.