

GSMA PathFinder Service **Frequently Asked Questions**

1. What is PathFinder?

Rooted in Carrier ENUM and offered as a managed service by the GSMA and NeuStar, PathFinder is the GSMA's multi-tiered, fully extensible number resolution system. It is designed to facilitate the efficient global interoperability of new and existing IP services using telephone numbers – all within a business framework consistent with operator needs. It provides a comprehensive suite of services designed to enable IP-to-IP interconnections between interconnect partners for voice, messaging, video, and other IP services.

2. What is Carrier ENUM?

PathFinder is based on Carrier ENUM technology. At a basic level, ENUM provides a standard way to convert a telephone number into a URI built on Internet Domain Name Services (DNS) protocols. This is a key enabler of global interworking of IP and IMS-based mobile and fixed services, including voice, messaging, presence, video, content, even m-commerce transactions.

3. What are the benefits?

PathFinder enables subscribers to use a single identity (their telephone number) to access all existing and future IP-based services. The service allows Mobile Operators to exploit their greatest asset – their base of subscriber mobile phone numbers – ensuring a familiar customer experience and helping to minimise adoption time

PathFinder also helps enable operators to migrate away from legacy technology such as circuit switching for voice and C7 for messaging (SMS) towards IP, saving substantial costs. It provides full interoperability for next generation services such as IM, presence, video, content and m-commerce, allowing these initiatives to rapidly grow into revenue generating services.

4. How does it work?

The device, terminal, or service application understands phone numbers as the identity of the end subscriber, but needs to map that to an IP address of the subscriber's serving network element to deliver the communication service. Using a simple, ENUM-based mapping function, PathFinder translates a telephone number into a logical name, which represents the endpoint of the target service or network operator gateway. PathFinder solves the key first step of mapping a phone number into a URI for a specific service, after which the existing GSMA Root DNS service can be used to translate that URI into an IP address. Carrier ENUM maps phone numbers into IP-friendly addresses called URIs (e.g. +44 12345612345 becomes sip: +4412345612345@icscf.carrier-A.3gppnetwork.org).

5. How is PathFinder different from Public ENUM?

PathFinder is a Carrier or Private ENUM service. In Public ENUM, the end users who are assigned the phone numbers must opt in to have their ENUM data registered in the public e164.arpa tree for others to reach and communicate with them. GSMA Carrier ENUM is not Public ENUM. It is a special type of Private ENUM where the carriers / operators who serve the phone numbers provision the ENUM data in the ENUM directory to facilitate inter-carrier routing.

6. How is PathFinder related to the IPX initiative?

The IPX initiative is intended to have all types of operators (fixed, cable, cdma2000 and other operators in addition to GSM operators) interconnected via the IPX. PathFinder is not related to the IPX initiative but it is expected that all operators connected via IPX would provision ENUM data so that they can retrieve others' ENUM data to terminate traffic to each other.

7. How can operators start using the service?

Now that the Pilot Programme has been completed, mobile operators, fixed network operators, carriers and related service providers can start using the service, by signing the third-party agreement with GSMA and NeuStar.

8. When will the service be available?

The service is now commercially available.

9. What were the Pilot Programme objectives?

- Allowed operators to test and use PathFinder in a pre-commercial environment
- Paved the way to the commercial launch of the service

10. How did GSMA choose NeuStar?

In 2005, the GSMA recognised the potential importance and impact of ENUM to the communications industry and began exploring opportunities to assist the GSMA membership in the development and implementation of a Carrier ENUM service.

In 2006, a team reporting to the Inter-working Roaming Expert Group (IREG) developed a global architecture for ENUM data management and access.

In 2007, this group made recommendations around a commercial framework for ENUM data access.

The analysis identified the need for a global Carrier ENUM directory and a global administrator. The Executive Management Committee (EMC) endorsed this initiative and asked the GSMA to tender, award and implement a pilot project.

In July 2007, a detailed "Invitation to Tender" was sent to four vendors, each of the four vendors submitted a formal response to the Tender.

The GSMA went through a rigorous and comprehensive selection process with a number of rounds, with Member input in evaluating the technical proposals.

In October 2007 GSMA selected NeuStar.