

NRENum.net Course - Section 2 - What is NRENum.net?

What is NRENum.net?

It is the ENUM service for the academy; it is an alternative to the Golden Tree e164.arpn, and has been developed by [GEANT Association](#) (trans-European academic network). It has an infrastructure of DNS servers interconnected hierarchically, where each NREN obtains the delegation of the national dialing code, creating a global directory of phone numbers compatible with the protocols of real-time communications, such as video conference and Voice over IP (VoIP) (H.323 and SIP).

Just as the global video-conference network, the main objective for end users is to be able to use the dialing with phone numbers with which they are largely comfortable. NRENum.net provides the direct dialing to communication devices located anywhere in the world by using real-time communications.

The ENUM protocol uses the reverse resolution of the DNS systems to translate phone numbers to URI addresses. For example, numbers are reversely recorded in the DNS zones, that's why 7.5.nrenum.net corresponds to the country code +57.

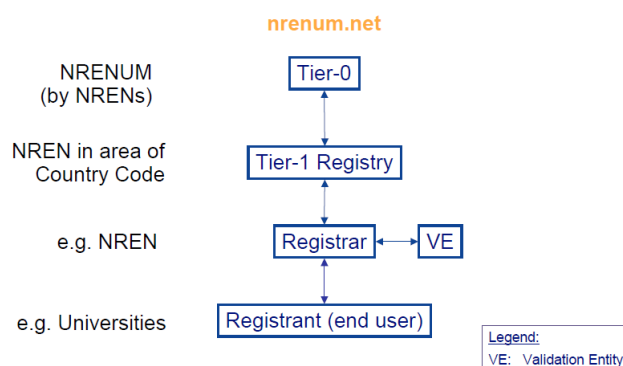


Figure 1. NRENum.net Service hierarchy

Tier-0 Root servers managed by GEANT Association

Tier-1 delegated DNS servers managed by the NRENs

Registrar entity responsible for registering numbers in the ENUM zone

Validation Entity (VE) indicates when a number is valid or not. This process is verified by comparing the number based on the E.164 standard and the indicatives according to plan

Registrant: entity that provides the terminals associated with the phone numbers registered in ENUM zones

Importance and benefits of NRENum.net

1. Before, communications were made (and still are) by using the dialing for IPv4 or IPv6 addresses. Currently, dialing by using an IPv6 address represents a huge level of difficulty for ordinary users.
2. Any compatible system can query the ENUM tree of NRENum.net, but only the NRENs responsible for a delegated zone can register new numbers in the global directory.
3. It is compatible with communication systems based on SIP and H.323 protocols.
4. It involves the use of emerging technologies in communication systems in real time.

References

- [1] Official website of NRENum.net Available at: <http://nrenum.net>
- [2] S. Bradner, L. Conroy, K. Fujiwara (2011,03). IETF RFC 6116. Standard. Available in: <https://tools.ietf.org/rfc/rfc6116.txt>
- [3] P. Faltstrom, M. Mealling.(2004,04). IETF RFC 3761. Standard. Available in: <http://handle.itu.int/11.1002/1000/10688><http://www.ietf.org/rfc/rfc3761.txt>