

ENUM



KEY BENEFITS

- Reduces latency in call completions
- Protects against DDoS attacks
- Easily scales to peak loads
- Remains always available

KEY FEATURES

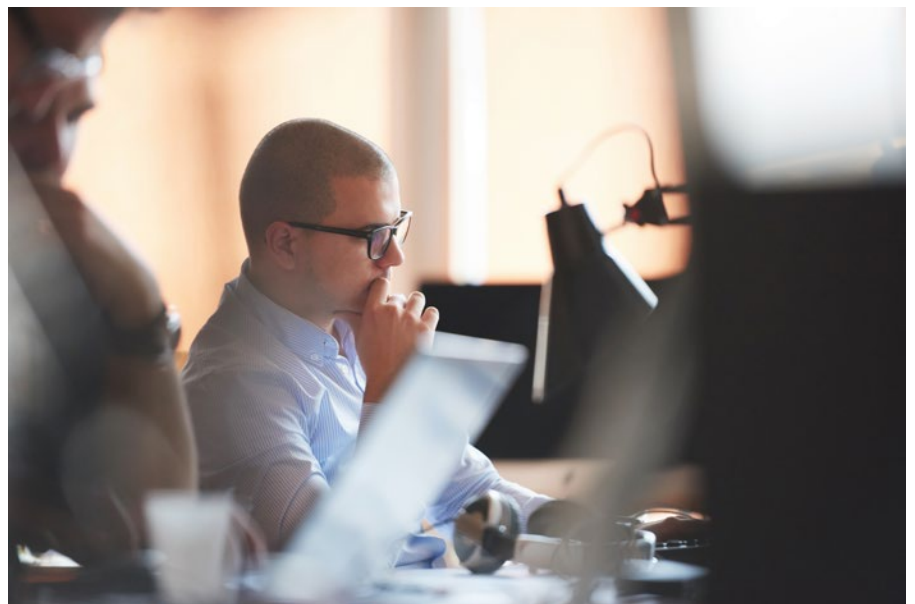
- Fully integrated self-hosted MNP
- Industry leading security
- Carrier grade DNS
- NFV or Physical Appliance Configuration

ENUM is a critical element in IP Multimedia Subsystem (IMS) architecture but conventional solutions can lead to latency in call completions, leading to frustrated users.

Secure64 ENUM is a carrier-grade DNS that utilizes a fully integrated, self-hosted MNP to greatly increase call lookup speed and significantly reduce latency, leading to a positive customer experience.

Secure64 ENUM is a standards-compliant DNS server which is fully interoperable with other IMS components, while providing security, scalability and availability. The ENUM server, like all Secure64 DNS products, was designed with scalability in mind and built for the most demanding environments.

Additionally, critical infrastructure needs to be secure and always available, despite not being open to the public internet. Secure64 ENUM was purpose-built on a foundation of security, and provides advanced protection against malware and DDoS attacks without requiring constant patching or investment in security appliances. **THE SERVER IS ALWAYS AVAILABLE.**



SECURE64
ENUM
SERVER

Technical Information

Subscriber Provisioning

- Bulk Provisioning via CSV data or RESTful API.
- Dynamic Updates to add and delete subscriber information on an incremental basis.

APIs to Legacy MNP Databases

ENUM queries for telephone numbers that are not provisioned in the authoritative DNS will perform a secondary lookup in legacy MNP databases. If MNP data is present, the routing information will be formatted into the proper country-specific DNS response, otherwise the ENUM server will respond with NXDOMAIN.

- LDAP
- SS7 MAP ATI over SIGTRAN
- Custom

Fully Integrated Self-Hosted MNP

ENUM systems that use secondary lookups to legacy MNP databases can add latency to an ENUM query. Higher performance can be obtained by integrating MNP data directly into the ENUM server itself. The Secure64 ENUM server has patented technology in which an entire range of telephone numbers across multiple carriers can be internally provisioned by declaring default routes. Individual phone numbers that are subsequently provisioned override the default routes to provide unique NAPTR routing records that specify VoLTE, SIP, and other formats. The provisioning API accommodates local subscribers as well as MNP data:

- **PORT-IN:** provisions a 3rd party number in to the ENUM server to override the default route.
- **PORT-OUT:** moves a local subscriber to a 3rd party and assigns the proper routing data.
- **3rd PARTY:** provisions routing data when a subscriber moves between two third party carriers.

High Availability Carrier Grade Solution

- DNS ENUM servers can be deployed in a redundant topology configuration with hidden master and secondary servers among multiple geographic sites.
- Secure64 DNS/ENUM is based on a

highly secure Linux kernel augmented with custom DDoS defenses, role-based authentication, and other security features needed in carrier-grade systems.

NFV or Physical Appliance Configurations

The ENUM server is packaged as a virtual machine that may be installed on a physical x86 based server, or in an NFV configuration for scale-up and scale out on Openstack, VMWare, HP Helion and other VNF platforms.

Management Dashboard

- Secure64 DNS Manager provides a graphical user interface to configure, monitor, control, report and alarm. KPIs may be graphed and used to generate history reports.
- The DNS Manager also acts as an element manager to pass alarms and KPIs to higher cloud management systems in an NFV configuration

Custom Integration

Available for carrier-specific requirements.

Relevant Standards and Documents

APIs to Legacy MNP Databases

- Compliance
- GSMA
- IR.67
- (DNS Guidelines for Operators)

NAPTR Service

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

URI Schemes

- H323
- IM
- Mailto
- MMS
- Presence

- SIP
- SMS
- Tel
- APIs
- SOAP XML Provisioning
- ENUM Query
- Zone Transfer

Applications

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

Performance/SLAs

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



Learn more about Secure64 DNS solutions at www.secure64.com