

## snom 4S SIP Registrar/Proxy

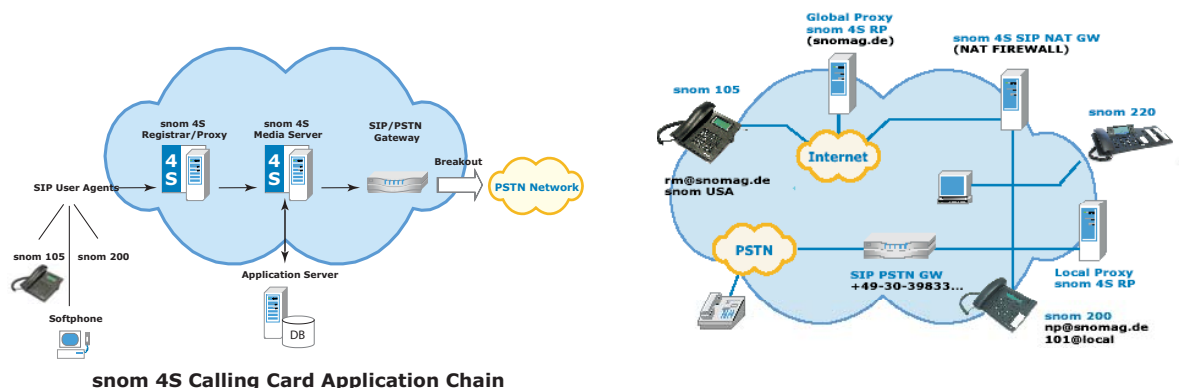
Solution for ISPs and SMEs

### Key Features

- SIP Proxy, Registrar and Location Server
- Enterprise and Operator Scale
- STUN Server
- Domain Hosting
- DNS A, NAPTR, SRV, ENUM
- Scripting
- User-Based Access Control
- Web Interface Maintenance
- User Web Interface
- Call Hunting
- Dialog Agent
- Speed Dial
- Controlling
- Available for Microsoft™ Windows™ 2000, XP and Linux



The snom 4S Registrar/Proxy is the main component of the snom 4S Telephony System. It consists of a location server and registrar according to RFC 3261. The Registrar/Proxy is a scalable solution available in three different versions: ENTRY, SME and EXPERT. The Entry model is intended for customers who wish to set a small VoIP network. The SME version is geared towards the medium-sized company with up to 50 users. The EXPERT version adds features suitable for SIP-based telephony operators with large subscriber numbers.



### User-Based Access Control

End-users may log onto the proxy and change their personal preferences. They can set the redirection to home, road and mailbox (follow-me). They are also able to see the call list from the proxy point of view, initiate conferences from the proxy and start call-back services.

### Built-in Dial Plan

The built-in dial plan can be used to give explicit access or denial to patterns, e.g. international numbers. It can also be used to implement a location specific dial plan that informs the user agent if a number is incomplete.

## Find-Me

The Find-Me feature searches registered users in parallel based on the probability that was provided with their registration. Using this feature, several user agents may be called in parallel and consecutively until a user picks up. Registering a mailbox redirects calls to the mailbox even if the respective user agent is available (e.g. PC turned off).

## Authentication

User-based authentication checks users using the MD5 algorithm. In this way, the client base of the proxy can be restricted to a list of known users and their rights can be controlled using generic patterns (e.g. access to international numbers).

## Call Hunting

Call hunting can be used to locate the destination of a call. This highly flexible mechanism supports an unlimited number of call stages, which may have their own list of participants. For each stage, a specific waiting time and different ringing melody can be specified.

## Dialog Agent

The dialog agent allows call pickup for devices that do not support dialog-state. It also allows the display of the status of the registered devices (inactive, ringing or talking). This important feature allows the usage of the proxy in a PBX environment.

## Controlling

The proxy may generate controlling information based on patterns for an unlimited number of groups. The information is accumulated over a period of three months and can be fed into standard tools such as Microsoft Excel.

## Address Books and Speed Dial

The proxy includes address book on domain level, group level and user level. Users may import their address books from applications like Microsoft Outlook. A special feature allows the access to this address book from endpoints, which allows "number guessing".

The speed dial feature allows easy translation of short telephone numbers into SIP URLs. The speed dial can be set up on domain, group and user level.

Registration-related information and undeliverable instant messages are stored in the file system. All information is stored in XML format, which enables simple revision control of the setup. Using modern hard disks, it allows large scaling of the proxy.

## Web Interface

The web interface supports https for secure transmission of sensitive content. Sessions allow the usage of the proxy in a multi-user environment. Using dynamic html pages makes it possible to customize the proxy for OEM customers.

## Scripting

The proxy can be adapted to individual requirements through a powerful scripting language. The scripting language is exposed by providing state-dependent entry points. Programmers use

these entry points to provide their own functionality, such as context-sensitive URI-rewriting or changes to the default call routing behaviour. The scripting language makes the setup of the proxy extremely flexible and powerful.

## Plug and Play

When used together with snom phones or other snom plug and play-compatible devices, the installation of devices can be reduced to an absolute minimum. Phones just have to be plugged into the network, and users only have to enter the extension number on the phone. This feature significantly reduces the installation and maintenance costs in office environments.

## NAT Support

To support NAT environments, the proxy may reject private registrations. It supports Path registrations and the usage of the report parameter to find the identity of a user agent behind NAT. A simple STUN server is included in the proxy, which may support registered clients in maintaining global accessibility. If the proxy itself is inside NAT, outgoing packets may be sent through an NAT gateway. This allows the operation of an NAT application layer gateway parallel to a firewall. Although the proxy supports the latest routing scheme (loose routing), it also handles old-style strict routing. The proxy is always in the routing path. This enables features such as call logging, which can serve for billing purposes, to be provided.

## AAA and Billing

AAA and Billing is supported by several methods. Writing CDR to a file may serve in standard setups. The snom 4S server can also be integrated with existing RADIUS-based AAA infrastructures, allowing authentication as well as accounting both for incoming and outgoing calls. This can be used both for pre-paid and for post-paid users. A sample Java billing server is available upon request. Instant messaging is supported by the standard procedures of the proxy.

## Miscellaneous

The proxy also supports storage and forwarding of messages to users that are known but not registered with the proxy. The proxy supports DNS A/CNAME, DNS SRV and DNS NAPTR based location of destinations. This allows fault redundant setup of network components like media servers. The proxy supports database replication with other snom proxies. In addition to RADIUS, the proxy also supports OSP (Open Settlement Protocol). This protocol is used for inter-operator billing.

snom is also offering a pre-paid complete calling card solution based on the snom 4S proxy and snom 4S Media Server.

## ENUM

ENUM is supported by redirecting tel URL to a specific domain. The proxy is available in Microsoft Windows and Linux versions. The Microsoft Windows version runs as Windows service, the Linux version as daemon.