4S ITSP Solution
a turnkey
VoIP Solution

Table of Contents

1. Overview

The 4S ITSP Solution is an integrated VoIP delivery platform for SIP-based voice communication. The key functional features of this system are:

- Manage access/user IDs
- Manage rates
- Manage Direct Inward Dialing
- Manage call routing
- Manage account information
- Manage call information (CDR)

2. Deliverables

The 4S ITSP Solution provides the technical infrastructure to operate the system described here. This consists of:

1. The software needed to implement the required features
2. Assistance in choice of hardware and operating system platform
3. Installation and configuration
4. Maintenance and support to client for all installed software

3. System Overview

The functional requirements are as follows.

3.1. Functional Specification

1. Create VoIP users (manual and automatic)
2. Manage credit for each card
3. Manage calls from VoIP to VoIP
4. Manage PSTN break-out from VoIP
5. Manage DID for business users
6. Manage users, ANI, DNI
7. Manage rates
8. Routing based on rates, ANI and DNIS
9. Call and session management for prepaid application
10. Flexible CDR generation to database
11. Dollar/Minutes remaining in your card
12. one ANI for each Account
13. DID for business users

3.2. Dimensioning

The basic system is dimensioned to handle

120 parallel calls. It scales to about 500 parallel calls per 1U pizza box.

This corresponds to roughly 5.000 - 10.000 active users.

3.3. Software Components

The system is built using the following components:

1. 4S NATfilter/Session Border Controller
2. 4S Forking Proxy
3. 4S Media Server
4. Application Server
    a. HTTP Server
    b. Business Logic (in PHP)
    c. Database server

The Session Border Controller (SBC) is the central call controller of the 4S ITSP Solution.

It authenticates and manages all VoIP sessions accessing the system.

It manages all dialog state including the necessary accounting and CDR generation.
The SBC also manages all necessary far-end NAT traversal and assures that user agents from any type of private or public IP network can access the services provided.

3.4. 4S Media Server

The media server provides SIP-controlled media streams needed for Interactive Voice Response (IVR) prompts, voicemail and potentially conferencing. It can also be used as an IP gateway or B2BUA in some case calls need to routed to other VoIP providers, as opposed to simple PSTN termination.

3.5. 4S Forking Proxy

The 4S Forking Proxy is the central SIP routing and forking unit. It is the core SIP signalling and routing engine. It is configured to be completely stateless and all authorization and routing decisions are passed to the 4S Forking proxy by the SBC, which in turn receives the relevant data from the Application Server (AS).

3.6. Application Server

The application server consists of a

1. Web server
2. Business logic written in PHP
3. Database Server

3.7. Database server

The database server stores all persistent state needed by the system. It is the only component that keeps state.

The database contains the *model* of the system.

This includes all

- user account (card) information
- call detail records (CDR)
- rate information
- routing information

4. Hardware

4.1. Servers

Any PC operating a standard Linux distribution can acts as platform. The basic configuration consists of two machines, configure to hold:

1. Machine1: SBC and AS
2. Machine2: Proxy and Mediaserver.

4.2. PSTN gateways

The client provides the SIP PSTN gateways.

4S can assistin establishing interoperability of the 4S ITSP Solution and the PSTN gateway.

5. Installation and Configuration

Installation, configuration and testing of the system will be managed by 4S engineers. client engineers will be involved to facilitate knowledge transfer.

Where possible all installation and configuration will be done remotely.
snom estimates installation, configuration, tarining and testing to take

3 mandays

It is clear that this number can vary, e.g. if testing takes longer than anticipated.

6. Maintenance and Support

Support is charged at 18% of software licenses payable at the beginning of the support period. SLA is provided upon request.

6.1. Hardware

Client will provide all hardware. Client is responsible for operation and support thereof.

6.2. Installation and Configuration

4S charges client

1.200 € / day

for installation, configuration and testing.