Corporate Communications Solutions

System Architecture

This solution is based on the traditional Least Cost Routing with the difference that "SIM" cards are hosted in a hosting facility at TERACO Isando. All 4 Cellular Networks get accessed to provide the cheapest route for cellular communications.

The biggest advantage of this application is that there no monthly subscriptions and all available minutes are pooled into the clients pool of minutes to be distributed as the client requires.

Savings are achieved by utilising a router, connected to the PABX in the same way as a normal exchange line, making the system seamless to implement. The router then "re-routes" calls according to a table of rules, on the path that incurs the least relative cost, hence savings are maximised.

Calls to mobile phones are routed via the virtual SIM cards; Connected to any one or multiple virtual SIM cards.

Taros GSM / ISDN Gateway

Value added features

With the flexible hardware configuration you could e.g. start with 1 x E1 interface and 32 GSM Channels, this can then be expanded / upgraded to 2 x E1 interfaces with 60 GSM Channels on the same unit, making it very cost effective.

Upgrade to 2 x Dual E1 interfaces (4 x E1) this enables you to scan 2 x PSTN (Telkom) lines.

The Taros scanning (transparent) setup process works as follows:

The unit can be connected between the PABX and your landline (e.g. Telkom/PSTN). When making a call, the Taros examine the digits to determine whether it is a landline or cellular call taking over the LCR from the PABX.

If it is a landline number, the Taros passes the call through to Telkom/PSTN, but if it's a cellular call, it re-routes the call to the most cost-effective cellular network (e.g. Vodacom, MTN or CellC) making it universal for any LCR requirement.

Furthermore there is the four SIM cards per channel feature, this allows you to install up to 128 SIM cards in to a 32 channel Gateway or 256 on 60 channels.
Very flexible routing tables allowing controlling SIM-usage accurately and efficiently.

Routing:
Least cost routing (LCR) by: prefix, time and date; SIM port usage (load balancing); ported number information, this means that the TAROS will specify which network the call is indented for i.e. Telkom, Vodacom, MTN, Cell C etc.

Number portability:
The Taros also caters for number portability (integrated database) and can manage it automatically with daily update via GPRS or Ethernet.

Fault reporting:
Built in SMS fault reporting system (PRI failure, no calls made, etc.) The unit will report faults via SMS to designated users.

Management Interface:
The graphical management user interface runs in Windows to assist technicians with proper management. The software allows you to view statistics and reports, live traffic monitoring ASR, statistics and CDR's. All reports can be extracted to CSV file format. This user interface provides Ethernet, GPRS and USB connectivity, remote firmware upgrades is possible via remote connection.

Technical specifications:
Full ISDN/PRI compatibility according to European standards

Functionality

- Compatible with all PRI PBX and IP gateways
- Number portability integrated database
- Callback unlimited numbers
- Full E1/T1 connectivity, ISDN PRI compatibility
- Least Cost Routing by: prefix, time and date;
- SIM/port usage (load balancing); portability information
- Graphical management application runs in Windows
- Statistics and reports: ASR, CDR export
- Ethernet, GPRS, USB connectivity
- Live traffic monitoring
- remote firmware upgrades
- Flexible hardware configuration
- ilt in SMS fault reporting system
- (PRI Failure, no calls for specified time etc.)
- 4 to 60 GSM voice modems per gateway
- Up to 4 SIM cards per GSM voice modem
- Up to 4 PRI interface connectivity /gateway
- 1 or 2 PRI interface line scanning feature
- (Transparency on 2 x PSTN lines)
- Ability to connect to SIM server,
- Controlling "SIM's" from a central point

Technical Specifications

- ICASA approved and all major PABX CO certified
- Processor card: One Ethernet 10/100-Base T port
- GSM card: Four GSM dual band 900/1800 four SIM cards for each GSM module,
- E1 trunk card: Available with one or two E1/T1 trunks on-board Line code HDB3, NRZ, CMI,
- AMI Audio compression: A Law 120 ohm standard impedance
- Mechanical construction (19" cabinet): Aluminium rack with cooling fans on the back 16 slots available for plug-in boards (7U high)
- Signalling protocols supported: R2 or DTMF , Q.421/422; Q.411/412 - ISDN with QSIG, DSS1, Q.931

Virtual SIM Application

SIM Server

The Busiraks SIM Server is designed to optimise airtime burning for customers.
Instead of physically changing the SIM cards on site, all the SIM cards are stored at the customer's offices (or any other secure location) and virtually assigned via ethernet to the Taros LCR units based on site at customers.

Changing of the SIM cards is now as easy as a few clicks on the SIM Server's integrated web page.

Benefits of the Busiraks SIM farm:

- Security: The SIM cards are not on the clients premises, thus they cannot be stolen or get lost.
- Cost: No need for technicians to go to a site to change SIM cards.
- Efficiency: Airtime on the SIM cards can be burned optimally. SIM cards are assigned to user specified groups with options like monthly recharging, priority and over-burning. The server will automatically assign and kill SIM cards without any user intervention.
- SIM Server clustering: SIM Servers can be clustered to accommodate high volumes off SIM cards exceeding 512 SIM's
- Fault finding: Reports showing minutes burned for each client and at what times. This makes it easy to spot if a client is not making calls.   SIM cards are also flagged: calls not connecting, GSM not registering, etc.