ALPHATECH TECHNOLOGIES s.r.o.
Jeremenkova 88, Praha 4, Czech Republic
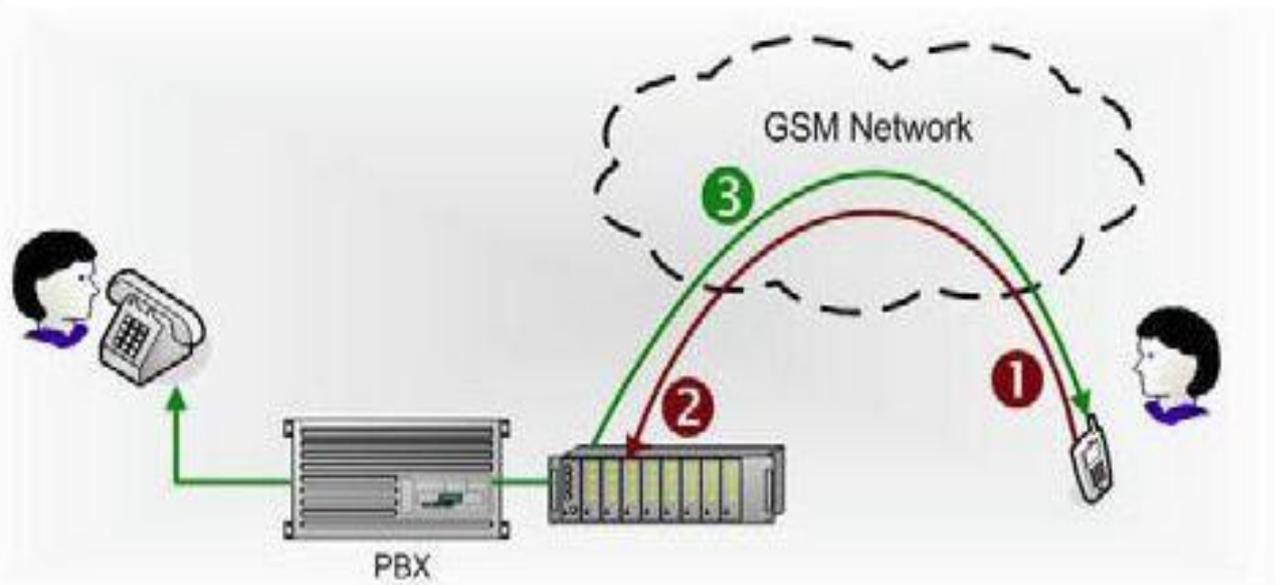www.alphatechtechnologies.cz

PRImaGate Switch

Technical data sheet

PRImaGate Switch

- **From 8 to 32 channels**
- **Integrated LCR / Router**
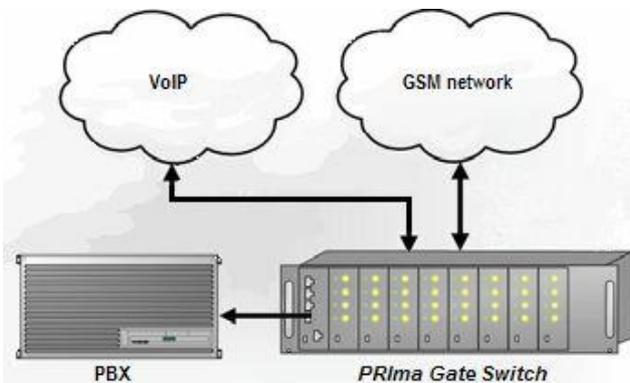- **Voice Call Back**
- **SMS Server**
- **VOIP**

PRESENTATION

Specially designed for big companies, call-centres and companies whom GSM traffic is high, PRImaGate Switch contributes to decrease costs of fixed-to-mobile and mobile-to-fixed communication (VoIP, Analog line/trunk, ISDN PRI). PRImaGate Switch allows connecting incoming and outgoing calls among ISDN network, VoIP network, Analog line/trunk and GSM/UMTS network.

PRImaGate Switch may also decrease costs of call termination, when connected to alternative carrier equipment.

Its easy way for installing and programming, its upgradeability and flexibility make absolute must product.

MAIN FEATURES

- **GSM Gateway equipped with 8 GSM channels, upgradeable to 32.**
- **VoIP - Standard SIP client,** can be easily integrated with most of iPBX market.
- **Analog line/trunk** with support for CLIP and tax pulses 12/16 kHz
- **Incoming and outgoing calls managed by groups.** (SIM card groups)
- **Integrated LCR:** allow forwarding of outgoing calls via a group of SIM card according to caller's number and receiver's number.
- **Integrated router:** allow call forwarding trough PSTN PRI access.
- **Voice Call Back**:allow a worker to be callback by the gateway and make a free call from his mobile phone.

- **SMS Server** : allow sending and receiving of SMS from a mail client as Outlook®
- **Mobility extension.**
- **Smart Call Back**: The gateway saves in memory all outgoing missed calls. So, if the mobile which was called call back, PRImaGate Switch automatically forward the call to the initiator internal phone.
- **DISA** When calling a SIM card in the gateway, PRImaGate Switch can send dial tone and allow the caller to dial internal number.
- **Advanced credit management** for each SIM card, according to remaining credit and day of credit restoration.
- **CDR:** Call Detail Record.
- **Statistics** for use of GSM modules.
- **Configuration by PC** with **USB** or **Ethernet** connection.

PRImaGate Switch

TECHNICAL SPECIFICATIONS

ISDN / PRI

- 2 RJ45 ports useable in TE or NT mode
- **Signalling** EURO ISDN EDSS1 (Q.931), QISG
- **Synchronisation** Master / Slave
- **CRC4** enabled or disabled
- Channel blocking
- RJ45 Pin setting

- TEI and HDLC channel selection
- Order of synchronisation adjustable
- Direct Access (Channel / GSM Module)
- Call progress tone
- Long Haul

GSM BOARD

GENERAL

- **I**ncoming and outgoing calls managed by groups of SIM cards.
- 1 to 32 incoming groups
- 1 to 32 outgoing groups
- **PIN Code**
- **Credit management** with remaining credit, setting of counts (second) and day of credit restoration.
- **CLIR**

TECHNICAL DATA

- **From 8 to 32 GSM channels** (4 by card)
- **Band**: 900/1800MHz
- **GSM module**: Siemens TC35I
- **Power**: 2W
- **SIM card**: 3V
- **Antenna**: SMA female, Impedance 50 Ω
- **Echo cancellation**

FEATURES FOR CARRIERS (ON DEMAND)

- GSM module SIM-locked
- Changes on dialled number on GSM network (add, remove digits)

VOIP BOARD

GENERAL

VoIP board up to 4 channels
- **Standard SIP client,** can be easily integrated with most of iPBX market.
- **SIP server,** can substitute to iPBX and register IP phones on PRImaGate Switch
- **WEB Management,** the gateway includes web server for easy configuration.
- **CLIP**, Send the CLIP to PBX

TECHNICAL DATA

Signaling: SIP v2
Number of channels: 4
Codecs : G711u, G.711a, G726, GSM
VAD (Echo cancellation)
Protocols:
IP, TCP, UDP, HTTP, TELNET, SIP, RTP
Management : web
Interface : LAN 10/100 Base-T, RJ45
Compatible:
All SIP v2 IPBX. Validated on Cisco Call Manager, Alcatel OMNI PCX, Asterisk, Nexspan, Panasonic…

PRImaGate Switch

ANALOG BOARD

GENERAL

3 type of analog boards
- 4 channels analog line board
- 4 channels analog trunk board
- combined 2 analog line, 2 analog trunk board

RJ-11 connector for analog line

TECHNICAL DATA
- Transmition and reception DTMF signal
- DTMF and Pulse dialing are supported
- Call Progress tone detection and generation
- CLIP is supported
  by FSK (V.22 or Bell 202) or DTMF
- Transmition and reception Subscriber Pulse Metering (12 kHz /16 kHz)
- Line impedance is configurable by hardware (default 600 ohms)

POSSIBILITY OF SWITCHING

INCOMING CALLS
- DISA
- Smart Call Back (time calls saved adjustable)
- Call-Back

Default setting:
- 1 group of SIM card with all SIM card inside
- All incoming calls accepted and forwarded to PBX.
- DISA disabled
- Smart Call back enabled
- Call-Back disabled

Group management:
- **12 modes for incoming calls** management
  > Receive all calls and forward them to PBX extension or user group.
  > Ignore all calls
  > Reject all calls
  > Receive authorized number and ignore others
  > Receive authorized number and reject others
  > Call-back authorized numbers and receive others
  > Call-back authorized numbers and ignore others
  > Call-back authorized numbers and reject others
  > Receive and receive
  > Authorized DISA and receive
  > Authorized Callback and DISA
  > Group Call
+ setting of others features

OUTGOING CALLS
- Management via groups of SIM card
- 3 modes for selecting GSM module to use
  >**Always** use the first module following if the first is busy.
  >**Cyclic mode** (1st, 2nd, 3rd, ..., 1st ...)
  >**According to actual credit** on the SIM card.
- Advanced routing table:
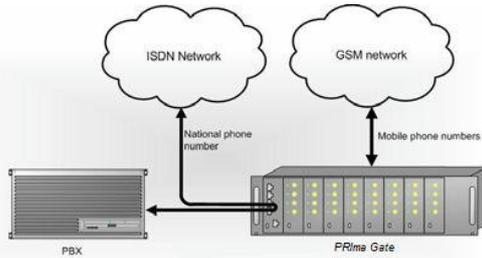 >**Management of routing profiles** according to user or user group.

> **Forwarding call** according to dialled number, trough GSM network or PSTN PRI network.
> **Management of multi call-overflow** on several GSM groups and PSTN access.
> **Changes on dialled number** for incoming calls (add, remove digits)

CROSS CONNECT CALLS
Possibility of any connection among ISDN network, VoIP network, Analog line/trunk according to routing table
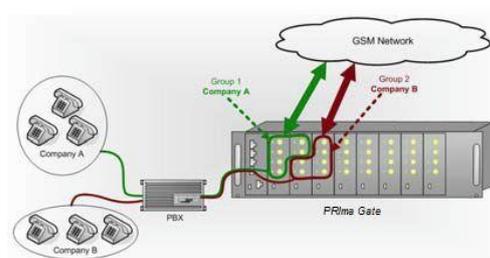
PRImaGate Switch

ROUTER

PRImaGate Switch is able to analyse dialled number and forward the call trough GSM Network or PSTN PRI access. Also, if all GSM modules are busy, it is possible to forward the call trough PSTN PRI network. Calls coming trough PSTN PRI access are forwarded directly to the PBX.

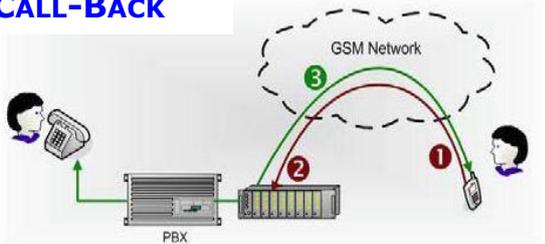This feature is ideal for companies wishing use the GSM gateway but that on PBXhas not free PRI port on PBX.

LCR

PRImaGate Switch is able to manage up to 32 SIM card groups. According to dialled number and caller's number, call is forwarded trough dedicated group. It is also possible to managed multi call-overflow to other groups and/or PSTN PRI access.
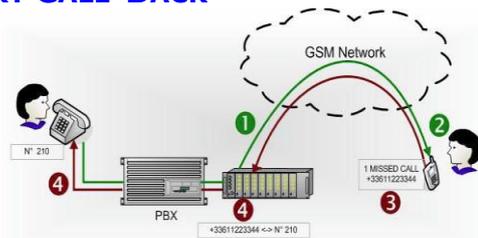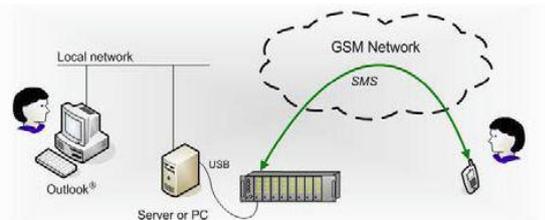
This feature is ideal for multi-companies PBX.

CALL-BACK

1 - A registered normadic worker calls the gateway.
2 - PRImaGate Switch rejects the call.
3 - The gateway calls back the worker and offer him the dial tone. So, the worker can communicate with the company for free.
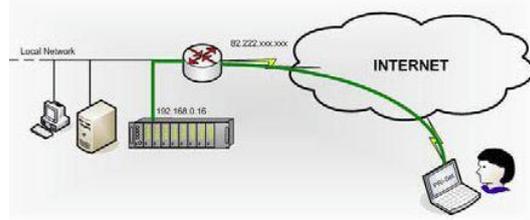
SMART CALL-BACK

1 - A worker in company calls a mobile phone.
2 - The call is unanswered.
3 - The called person sees a missed calldisplay and calls back the gateway.
4 - PRImaGate Switch gateway recognizes the CLIP and forward the call directly to the initiator internal extension.

SMS

Sending and receiving SMS is possible trough a mail client as Outlook. On each GSM card, the first module is used for SMS.
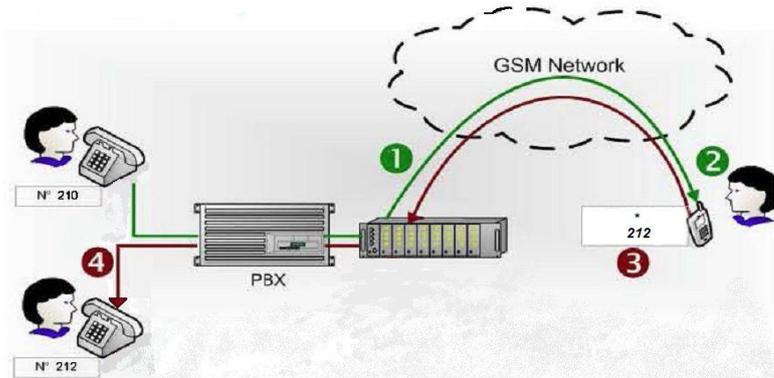
REMOTE CONTROL

PRImaGate Switch can be programmed remotely via Internet.. This is possible by VPN access or port forwarding on router.

PRImaGate Switch

MOBILITY EXTENSION

Service that turns your call to other user.

1 – The first user calls a mobile phone.
2 - The call is answered.
3 - The called person presses "*" on his mobile phone and hold first user. Then dials number of the second user.
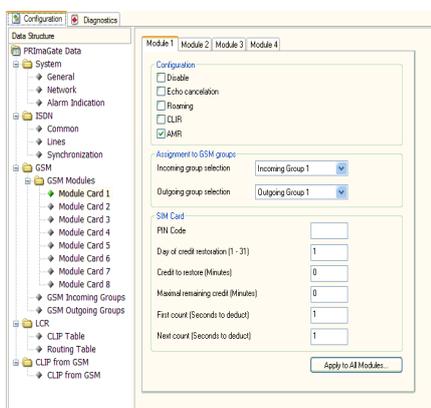4 – The second user answers call and the first user is listening music.

PROGRAMMING / MAINTENANCE

- PRI-Set Software under Windows®
- Drivers: CDM 02.02.04 (Locally)
  Ak-VirtualCom 1 - .NET Framework 2 (Remotely)
- Local control with USB: Mini USB type B
- Remote control: Ethernet 10/100 BaseT
  DHCP / Manual IP setting
- Firmware upgrade locally or remotely.
- Diagnostic tools:
  > Supervision of ISDN
  > Supervision of GSM modules
  > Glimpse of remaining credit on GSM modules.
  > Real time seeing of GMS module use.
  > Graphic about average use of GSM modules in last 24h.
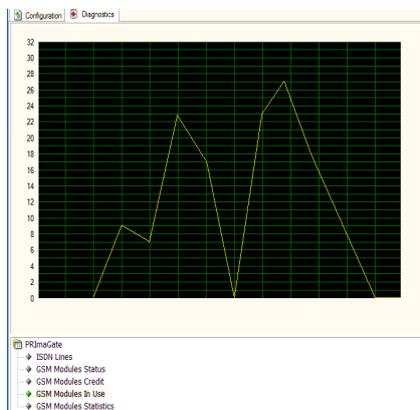- Overlook of GSM module status and signal strength on front face.

- SMS alarm if event happens on gateway.
- Call Detail Record in CSV format.
- Total reset and reset module per module.
- Real-time monitoring. Logs can be exported in text file.
  > ISDN (L1, L2 and L3)
  > Call control
  > GSM
  > AT commands
  > CAN communications
  > USB and LAN communications
- Import / Export configuration files on PC
- Password restriction access
- Software languages: English (More languages on demand)
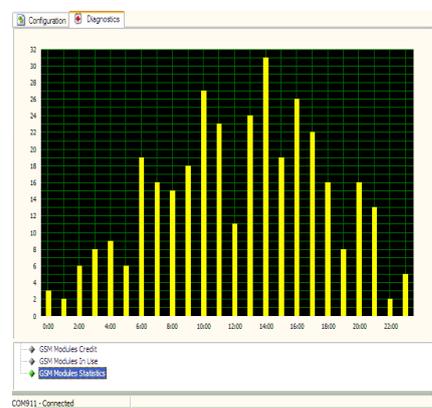
PRI-SET SOFTWARE

PRI-SET software allows local and remote programming and maintenance of PRImaGate Switch. The maintenance is really easy thanks to large panel of tools.
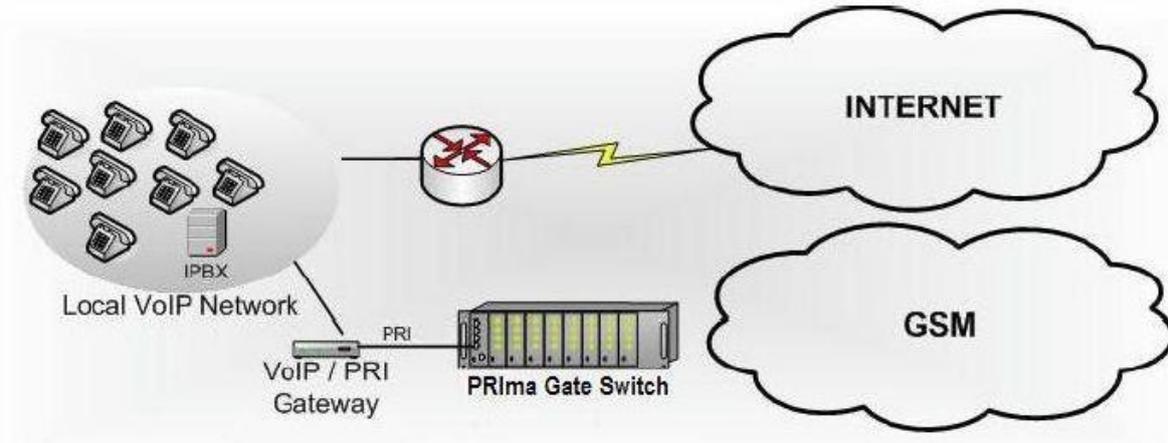

Glimpse of PRI-SET software.

Real-time monitoring about busy GSM modules.

Last 24h statistics about GSM module uses.

PRImaGate Switch

UPGRADE TO VOIP WITH EXTERNAL VOIP/PRI GATEWAY

PRImaGate Switch can be integrated easily in VoIP structures connecting itself to a PRI/VoIP gateway.

OTHERS

- Power supply: 110-120V AC, 220-240V AC
      50-60Hz, Max: 380VA
- Dimensions: 482 x 133 x 360 mm
      (19" x 3U x 360mm)

- Weight: 13.8kg max
- Operating temperatures: 0-50°C
- Relative humidity: max 95% to 40°C

OPTIONS

- 3G modules GSM
   > UMTS / HSDPA network
   > Sierra Wireless UMTS module
   > 3V SIM card
  > Antenna: SMA female, impedance 50 Ω

- SMS Server
   > Multi user licence.
   > Sending and receiving SMS with a mail
     client as Outlook®
   > Receiving SMS in Outlook®

ADDITIONAL PRODUCTS
- Antenna splitters 1 / 16 (Rack 1U): Allow connection of 16 GSM modules on 1 antenna
- Antenna splitters 1 / 4
- Directional High Gain YAGI antenna 24dB
- Additional 4 GSM module card.
- USB cable for programming.
- 5dB antenna

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