

## AARENET CARRIER GRADE VOIP SYSTEMS AND VIRTUAL PBX – SYSTEM FEATURES

### SYSTEM ARCHITECTURE

- ▶ Standard SIP control of Media gateways
- ▶ SIP interconnect to remote softswitch
- ▶ N+1 high availability (99,999%)
- ▶ DTMF transport type negotiation
- ▶ T.38 fax relay, fax bypass, modem bypass
- ▶ RFC4040 (clear mode)
- ▶ DELL PE630R Server core hardware, standard 19" Rack Version

### SIP RELATED FUNCTIONALITY

- ▶ RFC3261: SIP: Session Initiation Protocol
- ▶ Registrar Server
- ▶ MD5 authentication
- ▶ Several Numbers per Account
- ▶ Integrated Media Proxy and Media Server (Announcements)
- ▶ NAT traversal support
- ▶ SIP trunk
- ▶ Support Info (SIP-Traces, Problem-Log)

### TSP FEATURES AND TOOLS

- ▶ Web admin portal
- ▶ Auto-provisioning of customer devices
- ▶ Automatic upgrade of firmware
- ▶ End2End Monitoring of connected appliances
- ▶ Multi Tenant Support and Multi Tier Structure
- ▶ Centralized Configuration
- ▶ Centralized Provisioning
- ▶ Centralized CDR's
- ▶ Real-Time Rating Engine
- ▶ Configurable Event Alarming via Email
- ▶ SS7 Support via Gateways
- ▶ SNMP Access
- ▶ Built in diagnostic tools
- ▶ SIP Interoperation with Tier1 carriers Colt, BT, DT(\*)
- ▶ Auto provisioning of manufacturer's redirecting server.
- ▶ Accredited IP Phones supporting WEB GUI
  - ▶ Gigaset Maxwell Basic, 3, 10
  - ▶ Panasonic KX-UT123, UT136, UT248,
  - ▶ Snom 3X0, 7X5 and 8XX family
  - ▶ Yealink T42G, T46G, T48G
  - ▶ Yealink T5S series and CP960
  - ▶ Mitel 686xi series
- ▶ Supported standards CE, WEE, ETSI compliant

### OPERATOR FEATURES

- ▶ System Statistics (Status Graphs)
- ▶ Administrative Override (call blocking, Class of Service)
- ▶ Subscriber Locking (inbound, outbound, off-net)
- ▶ Peering Configurations (LCR, weight, fail-over)
- ▶ Individual Billing Plans
- ▶ Integrated real-time billing

### SUPPORT AND MANAGEMENT

- ▶ Support and Service Levels
  - ▶ Standard: 8/5 plus updates
  - ▶ Premium: 24/7 plus updates plus support
  - ▶ Customised: flexible
- ▶ Enhanced System monitor and External alarming to centralized NOC

### LICENCING FLEXIBILITY

- ▶ Accounts / Users flexible allocation
- ▶ Number of concurrent calls

### APPLICATIONS INTEGRATION

- ▶ XML Interfaces
- ▶ Billing Exports in .CSV
- ▶ Fax, Door intercom, EFTPOS
- ▶ Support of all ISDN functionalities
- ▶ Soft client integration, IOS and Android app
- ▶ ACD API for external applications
- ▶ Customizable integrated WebPortal for Endusers

### ENVIRONMENTAL CONDITIONS

- ▶ Operating Temperature: 10° C to 35° C
- ▶ Operating Relative Humidity (non-condensing tmax=29C): 20% to 80% non-condensing
- ▶ Maximum humidity gradient: 10% per hour, operational and non-operational conditions

**DEDICATED PER VIRTUAL PBX**

- ▶ Directory and user profile
- ▶ Music on Hold
- ▶ Call detail list
- ▶ Least Cost Routing (static)
- ▶ Multiple Route Choice
- ▶ Regular expressions based Number Rewriting
- ▶ Call blocking / barring
- ▶ Credit limit per account (Top Stop)
- ▶ Hunting groups (sequential, random)
- ▶ Speed dialing
- ▶ Call restriction / permission per subscriber
- ▶ Standard call features: CHD, CW, DND, ECT, BCT, comfort REDIAL, IVR
- ▶ CLI Signalisation : CLIP, CLIR, COLP, COLR, MCID (\*\*)
- ▶ Call distribution: Team/line keys
- ▶ Multiple registrations per number
- ▶ Extended CD rules (busy, delayed)
- ▶ CF, CFU, CFB, CFNR, CFXREG, DND
- ▶ Day/Night/Weekend timed activation
- ▶ CLI dependent forwarding
- ▶ Voice mail Remote access and voice2mail
- ▶ IVR extended 2voice, 2call, 2dial, 2hangup. Unlimited actions and announcements
- ▶ Conference service
- ▶ 3rd party add on
- ▶ up to 10 participants (predefined)
- ▶ CTI Outlook integration (1st PTY)
- ▶ WebRTC client dialler

**FAX**

- ▶ via analogue interface ATA
- ▶ T.38 Fax protocol support
- ▶ Through Patton SN411X gateways

**FMC AND MOBILITY SOLUTION**

- ▶ Use of vPBX functions on mobile phone, Calls from Wi-Fi hotspots, Seamless in-call handover between WLAN and mobile network
- ▶ One Number Concept (landline number)
- ▶ Remote Office Integration worldwide with or without VPN
- ▶ Secure QR-Code auto configuration
- ▶ Power usage optimized through PUSH message functionality (iPhone, Android)
- ▶ Home office integration

**USER AND CALL FEATURES**

- ▶ Call related functionality Routing based variants: rule, subscriber, domain, gateway, destination, emergency, time of day, numbering plan

**SOFTWARE FEATURES**

- ▶ Linux OS based
- ▶ Java application
- ▶ SQL, Ajax and SOAP interfaces

	size	redundant	basic setup accounts / nrs	max. config	upgrade to CG
<b>Entry Level</b>	1x1U	NO	1'000/10'000	5'000/50'000	YES
<b>Entry Level</b>	2x1U	YES	1'000/10'000	5'000/50'000	YES
<b>Carrier Grade</b>	6x1U	YES	5'000/50'000	unl. / unl.	N.A.

**System Performance Typical Specifications**

Typical system: 100'000 devices with registration interval 900sec. 50'000 devices with each 8 teamkeys with subscription interval 900sec. 4'000 concurrent calls

Carrier Grade Service Center

Media Server Throughput Capacity

Calls with transcoding G.729-2-G.711	Calls without Transcoding	Call Attempts per Minute	Busy Hour Call Attempts	Stackable
		3'000	180'000	YES
900	2'000			YES

The Aarenet VoIP System is a Carrier VoIP Switch and provides telephony services that are unique in extent and quality for its price range. Modular design allows optimized adaptation to individual customer needs. It is the key element for telephony services in a modern NGN environment. "an IP-Phone", "an Soft-Phone", and "Aareswitch" are protected trademarks.