

AARENET VOIP SYSTEMS

FUNCTIONALITY

The Aarenet VoIP Switch ensures the interoperability of the various elements of the system and facilitates the cardinal functionalities of the system. The Aarenet VoIP Switch is a class 5 soft switch, tending on end-users the same quality, variety and availability of services as legacy Time Division Multiplex (TDM) systems. Subscribers will not experience any deviation compared with legacy systems. The Aarenet VoIP Switch supports all customary features such as emergency number routing, short number dialing, VAS numbers, carrier selection, number portability, fax-services, call-blocking sets and many other features. In addition the system offers functionalities which are not available on legacy systems such as Web-access for subscribes or Virtual PBX Functionalities.

FLEXIBILITY

Thanks to their flexibility Aarenet VoIP Systems may easily be integrated into existing Customer Management Systems (CMS) or Billing Systems. Bidirectional automated data exchange is implemented with specialized interfaces.

SECURITY AND RELIABILITY

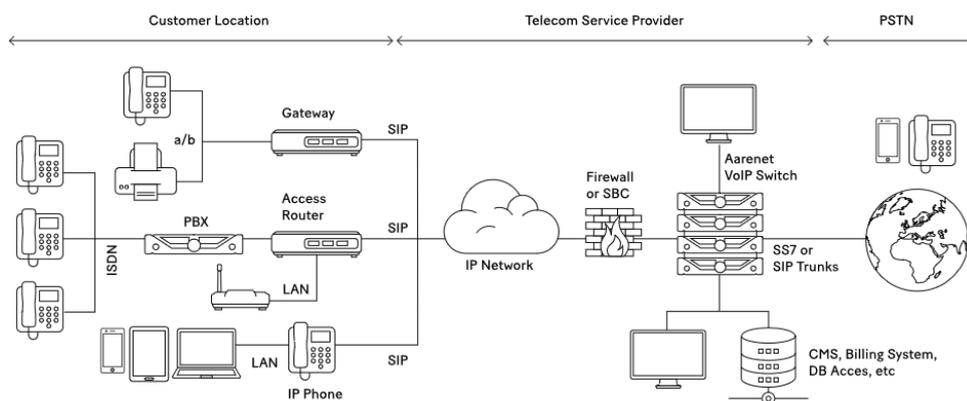
Security is of utmost importance. For example, the authentication of the CPE's is fully encrypted and even voice traffic may be encrypted if this is not violating legal regulations. The VoIP system itself is protected by Firewalls or Session Border Controllers (SBC). The use of redundant, high quality components ensures the required operating reliability of 99.999%, which is required for carrier systems. To meet more demanding availability requirements the systems may be delivered in location redundant configuration.

AARENET VOIP SYSTEMS

Aarenet's systems pervade all requirements of professional VoIP products in outstanding quality and high availability. Each system is built and configured according to the technical, administrative and regulatory requirements of the customer.

The wide range of technical complexity and the room of interpretation in standardisations of the interfaces of the components require an optimal integration of all parts in a coherent system. Aarenet cooperates closely with the development teams of its various suppliers to ensure the full integration of all building blocks in a satisfactory level of quality.

AARENET VOIP SYSTEM SETUP



The Aarenet VoIP System consists of the Aarenet VoIP Switch, a Firewall or a Session Border Controller (SBC) and auxiliary devices such as a provisioning or conferencing servers. The connection to the public phone network (PSTN resp. Public Switched Telephone Network) occurs over SIP trunks or SS7 gateways.

The customer premises equipment (CPE) is connected over broadband IP (Internet Protocol) either directly as in the case of IP-phones or soft clients or indirectly with gateways as in the case of analogue phones or ISDN equipment. The integration into an existing or new customer management or billing systems will happen by adequate interfaces such as XML.

CPE'S

VoIP Gateways, IP Phones and Soft Clients may be selected as Customer Premise Equipment (CPE). The VoIP Gateways enable the connection of existing legacy equipment such as analogue devices, ISDN phones or PBXs with up to multiple E1 (ISDN Primary Rate Access) connections. IP Phones replace the legacy analogue and ISDN phones and Soft Clients are used on PCs, tablets or other mobile devices (e.g. iPhone).

PROVISIONING, OPERATION AND MAINTENANCE

The Aarenet VoIP-System generates the configuration set-ups for the various customers' equipment and automatically downloads the settings to the devices. The loading of the settings may occur in advance of shipping the devices or may be downloaded after the connection of the equipment to the system. For selected devices, the Aarenet VoIP-System can access the manufacturer's redirecting server to enable Zero-Touch Provisioning.

Aarenet VoIP-Systems offer the support crew of the operators the ability to view the state of the CPE's at the customer's premises online in the system admin interface and access the information of the status of the operation of the CPE's. Among other tasks, the support crew may get the information whether an ISDN interface is active and whether a device is connected. Aarenet VoIP-Systems enable the support crew to make end-to-end controls and to locate issues with the equipment in the customer premises.

Furthermore specialized system tools allow problem analysis and ease the localization of faults.

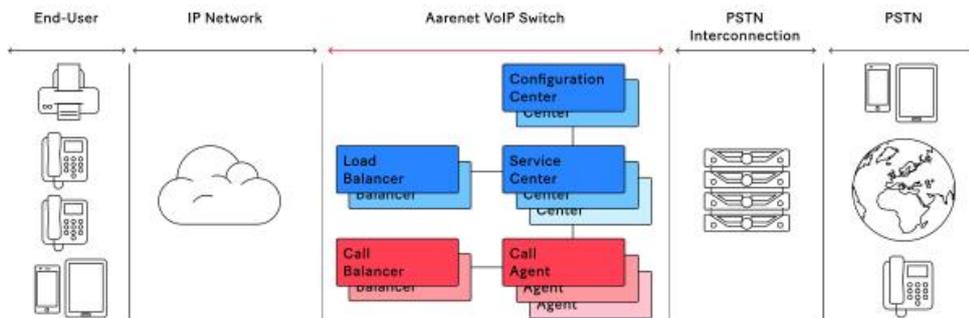
VALUE ADDED SERVICES

The system offers modular enhancements to realize a variety of value added services (VAS). VAS include - but are not limited to - conferencing services, call centres, interactive voice response (IVR) or unified messaging (UM) components. Automated information exchange between the systems is implemented with specialized interfaces

CUSTOMIZED SYSTEMS

Each VoIP System is customized and built according to customer's requirements and existing network structure. Even the feature-set may be enhanced on customer's demand since the architecture of the system is modular and flexible. The number of subscribers and the amount of supported concurrent calls is highly scalable.

AARENET SYSTEM ARCHITECTUR



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 Web-Phone", "an Soft-Phone" and "Aareswitch" are protected trademarks.