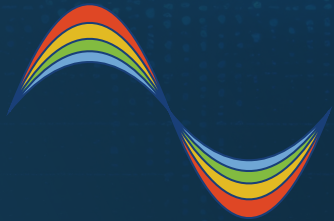


squire technologies



Vozi

Complete Voice Management Platform

Get more from your voice network



Signalling Specialists to the Telecoms Industry



Businesses love VoIP because it's flexible, inexpensive, scalable, easy to use and enables dynamic communication.

Vozi leverages existing and future VoIP services, cutting CAPEX and OPEX and boosting sales.

Vozi provides complete carrier-grade voice management, optimising your VoIP offer through superior routing and network security, while dynamic enterprise solutions and efficient billing improve revenue.

Deployable in private/public cloud, virtually or on bare metal, Vozi's versatile components scale up multi-generation networks to meet current and future demands, utilising:

- Comprehensive Session Border Controller (SBC)
- SIP Session Router (SSR)
- Easy Integration Class 5 Softswitch (C5)
- Advanced Interconnect Billing system (BSS)

The global VoIP market is being driven by:

- Corporate global high-quality connectivity demands
- Cloud adoption and 5G expansion
- Rising mobile device and mobile VoIP application usage
- Service control shifting from networks to customers
- Expensive hardware telephony infrastructure
- Cost efficiency initiatives around enterprise communication service

Initially, poor quality dial-up lines hampered Voice adoption. In the 2000's, broadband, new Voice services, and deregulation spurred its growth. In the mid to late 2010's, Voice adoption by mega-corporations further amplified its growth. Finally, COVID-19 revealed VoIP's revolutionary value by enabling companies to operate in lockdowns.

In 2024, the wholesale voice carrier market's value was estimated at \$39.17 billion and is anticipated to surpass \$176.97 billion by the year 2037.

As corporations and communication service providers seek cost efficiencies and service control shifts from networks to consumers, the need for flexible and open systems increases. Without universal interoperability, CSP's and enterprise will find it difficult to leverage new VoIP services like AI-supported unified communications.

Substantial capital expenditure, evolving consumer demands and global market turbulence mean telecommunication operators need cost-effective, flexible and secure solutions from reliable suppliers.

Businesses considering VoIP solutions should evaluate these five aspects of network infrastructure:

Security

To minimise security issues, voice platforms need advanced privacy and security systems like encryption, firewalls, fraud prevention, and topology hiding.

Fraud and billing complications

The threat of fraud is constant. Telecom operators need precise and effective control of billing that allows them to mitigate loss from inaccurate billing, identify and prevent fraud, and ensure optimal revenue capture.

Sunk costs on traditional telephony infrastructure

The sunk costs of rigid, legacy telephony services can be offset by VoIP's reduced operational, maintenance and upgrade costs and the simplicity of scaling it up.

Quality of Service

Congestion and connectivity problems can destroy customer loyalty. Dynamic load balancing shares traffic evenly across a network, while a distributed network architecture and high availability can optimise performance, improving network resilience and QoS.

Future technologies

Network compatibility is an ever-present concern for telecom businesses. Using Open Gateway technology, MNOs, MVNOs, fixed network service providers, network aggregators, and enterprise can easily integrate the latest communication technologies.





Security

- DoS / DDoS protection
- Allow trusted and authenticated users access while under DoS attack
- Dynamically accept or reject traffic based on device behaviour
- Throttling and overload protection

VPN Support

- Secure L2 and L3 VPN customers
- Support inter-VPN sessions
- IPSEC encryption levels: DES, 3DES, AES
- PPTP – PPP (PAP or CHAP), 40, 128bit MPPE
- L2TP

Access Control

- Control of max concurrent sessions
- Filter devices/networks on a per-application basis
- Permit access to known devices or networks
- Access for registered users; permit or deny access to mask users
- Accept media for authorised sessions
- Dynamically accept or reject traffic based on device behaviour

Topology Hiding & Privacy

- Hide network topology preventing direct attacks and maintain privacy
- Mask user information for privacy and confidentiality

Fraud Prevention

- Perform signalling and media validation by authenticating and authorising users

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Data breaches, fraud, and DoS/DDoS attacks are some of the security threats operators must counter. Failing to secure networks jeopardises user privacy, network availability, and revenue, and can result in loss of customers, tarnished brand reputations and heavy fines.

Vozi's advanced network topology hiding, encryption, authentication and authorisation features, and built-in firewall, prevent DoS/DDoS attacks and mask user information for privacy. It also controls access using deny/allow lists, and device/network/user filtering.

The impact of DoS/DDoS attacks can also be mitigated. Vozi's dynamic load balancing shares traffic across the network while throttling and overload protection optimise network performance and ensure high availability.



A-SBC

The Access-SBC sits on a service providers access borders, i.e. enterprise locations, internet, 3G/4G/5G mobile and fixed line.

Supports IMS functions:

- **P-CSCF:** Proxy Call Session Control Function
- **E-CSCF:** Emergency Call Session Control Function
- **BGCF:** Breakout Gateway Control Function
- **AGW:** Access Gateway
- **ATCF:** Access Transfer Control Function
- **ATGW:** Access Transfer Gateway

Voice Codec Support

G711u/a, T.38, Echo Cancellation
G.729, G.723.1, G.726.AMR/AMR-WB,
GSM-FR.

Secure Rtp

SRTP and ZRTP support.



I-SBC

The Interconnect-SBC sits on a service provider's interconnect borders, i.e. the borders between service providers' networks.

Supports IMS functions:

- **IBCF:** Interconnect Border Control Function
- **IWF:** Interworking Function
- **I-BGF / TrGW:** Transition Gateway

IMS Interworking

Full support for a-sbc and i-sbc access,
and interworking modes.
VoLTE interconnect support.

Tunneled / Proxied Protocols

SIGTRAN, H.248, MGCP.

Other VoIP Media

All other media is proxied (Voice, Video,
Fax, DTMF etc).

- Built-in Firewall
- DoS/DDoS protection
 - Allow trusted/authenticated users access while under DoS attack
 - Dynamically accept or reject traffic based on device behaviour
 - Throttling and Overload Protection
- Encryption
 - SIP TLS
 - SRTP
 - ZRTP
- Active or Passive Lawful Intercept support for:
 - 3GPP/ ETSI LI Standards
 - SIPREC
 - CALEA
- VPN support
- Topology Hiding and Privacy
 - Hide network topology preventing direct attacks and maintain privacy
 - Mask user information for privacy and confidentiality
- Deny/Allow Listing based on Message Header and contents
- Access control
 - Control of max concurrent sessions
 - Filter devices/networks on a per application basis
 - Permit access to known devices or networks
 - Authorize/deny access for registered users; permit or deny access to mask users
 - Dynamically accept or reject traffic based on device behaviour
 - Accept media only for authorized sessions

Vozi offers carrier-grade reliability with flexible, scalable, next-generation support for secure interconnecting to IMS-based networks.

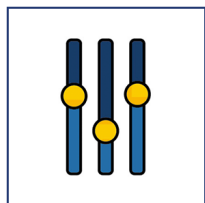
At its core, Vozi has a powerful SIP Session Router that enables message manipulation, filtering, redirects, and routing. The combined power of Class 4 and 5 Softswitches, and a formidable Session Border Controller manage 30,000 simultaneous SIP trunking calls, and up to 250,000 subscriber registrations per Virtual Machine.

Vozi's state-of-the-art routing capabilities include A or B number-based routing, DNIS-based routing, complex routing, priority-based routing, least cost routing and much more. Additionally, a micro-service distributed architecture separates signalling and media planes, providing network elasticity, resilience, dynamic load balancing and high availability for centralised routing and control across the network.

A Vozi-optimised network ensures superior quality of service (QoS) as traffic is shared evenly across a network, matching latency requirements across different territories and according to varying bandwidth demands. Delivering comprehensive VoLTE support allows Vozi to be deployed in the core of an IMS network.

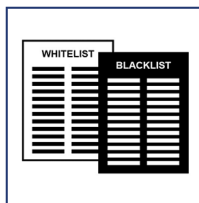
At the core of Vozi is the SIP Session Router.

Message Manipulation



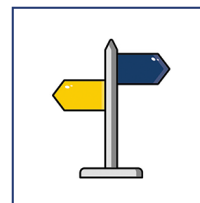
Powerful regular-expression-based manipulation of message header and contents allowing removal, creation and replacement.

Filtering Panel



Deny/Allow list based on message header and contents.

Redirects



Acts as a redirect server by redirecting messages to another service.
Can be used to provide load balancing/throttling.

Routing



Message header and contents.
Reattempts.
Load balancing profiles.
External lookups.



Communication is arguably the most critical element for business success. Business communication can be broken down into three parts: geographical reach, speed of connection and functionality.

Vozi's superior routing capabilities ensure real-time communication and uncompromised geographical reach. Similarly, Vozi's carrier-grade Class 5 Softswitch unleashes incomparable functionality through unified communication options.

By using Open Gateway technology, MNOs, MVNOs, fixed network service providers, network aggregators, and enterprise can easily integrate the latest communication technologies. The emergence of AI unified communication VoIP services offers a huge opportunity for businesses and network operators to innovate and drive up revenue. Vozi's flexible open interfaces makes it easy to take advantage of these technologies.

Provision new features or choose from Vozi's out-of-the-box options:

- File and Screen Sharing
- MS Teams Integration
- Voicemail and Unified Messaging
- Fixed/Mobile Integration with App (IOS/Android/Mac/Windows) supporting Voice, Video and Chat
- API and Business Application integration
- **Intelligent Call Management**
 - Call Routing/Forwarding/Parking/Screening
 - Simultaneous Ring and Speed Dials
 - Auto Attendant (IVR based on DID number)
 - Music on hold
 - Presence management
 - Call Analytics and Reporting
- FWA (Fixed Wireless Access)
- DID and Toll-free number integration
- **Comprehensive web-based SVI-MS (Management System) providing:**
 - Configuration
 - Monitoring
 - Debug



To mitigate loss from inaccurate billing and ensure optimal revenue capture, telecom operators need precise and effective control of billing.

The variety of all-IP communication solutions has shifted service control from the network to customers, complicating billing processes. The demand for efficient and effective end-to-end billing is driven by the needs of communication service providers (CSP's) to boost profits and delight customers.

Vozi's professional, Interconnect Billing system delivers comprehensive billing and accounting functionality to maximise revenue for CSPs.

- **Prepaid and Postpaid Customer Accounting**
 - Accounting Report Generation
 - Accounting and Revenue Analysis
 - Rating & Charging
 - Active Mediation
 - Billing and Invoicing
 - Rerating
 - Payments and Collection
 - CDR Rating
 - Detect Inconsistency between Raw CDR & Processed CDR
 - Rate Plan Conversation tools to support any Rate Plan Format
 - Reconciliation
 - Currency and Revenue sharing Tools
- **System Management**
 - Customized Access to Information
 - System Performance Report & Status
 - Monitoring Graphs
 - Fault Detection and Alarm Generation
 - Innovative Report Machine
- **Partner Settlements, including:**
 - Rate Plans
 - Trunks
 - Services
 - Dial codes/prefixes
 - Tariff Management
 - Credit Control for Specific partner
- **Traffic Reports including:**
 - Partner details report
 - Zone-wise traffic report
 - Traffic summary report
 - Rejected CDR report
 - Monitor and Alert



MavenShield

Fraud Prevention Platform

Use proactive fraud prevention to secure your network against telecom fraud. Integrating MavenShield with Vozi or other fraud prevention and revenue assurance solutions lets you leverage big data and AI to detect fraud or fraudulent behaviour and respond to it in real-time.

Network managers and engineers can configure rules to identify fraudulent traffic, including database lookups to outside network components. MavenShield analyses incoming traffic according to each rule, determining whether to connect, reject or move on to the next rule. Traffic is analysed according to internal or external datasets, such as deny/allow lists, HLR, HSS, EIR, MNP databases or BSS/OSS components.

Use MavenShield to:

- Reduce customer churn
- Save on operation expenditure
- Respond immediately to new threats

Trusted by Customers Worldwide

18



We work with over

400

telecom operators



In over

150

countries



Our products make

11th

annual
transactions



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Product Services

Choose from our range of product-based services to deliver installation, training, ongoing support and product enhancements to ensure your continued business success.

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Managed Platform as a Service

This allows clients to lease core network products while our dedicated network specialists install and commission products directly into your network with ongoing support provided.

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Support Packages

Providing a range of post-sales support packages to meet client requirements and budget.

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Squire Technologies Limited are a UK-based core network product vendor to the Telecoms industry. Talk to us today about your Voice plans for the future.

International Accreditation ISO9001

Following in-depth evaluation by an independent assessor, Squire Technologies has been successful in achieving ISO 9001 Certification.

This prestigious award is internationally recognised as a benchmark for standardised and quality procedures and systems within organisational operations.

ISO 9001 is a set of requirements against which an organisation's quality management system is evaluated. This certification assures customers that Squire Technologies' production processes have been measured and achieved a standardised award. This award indicates that Squire Technologies is committed to operating to these requirements and has subscribed to ongoing and regular internal and external audits of its systems.

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