squire technologies

5G Core Products

Signalling Specialists to the Telecoms Industry

Contents

HTTP/2 Signalling Controller

Optimise 5GSA and 5G NSA Coverage for Your Subscribers

The 5G HTTP/2 Signalling Controller delivers comprehensive 5G New Radio (NR) services, IP Multimedia Systems (IMS) management and network security with forward and backwards compatibility with legacy 2G/3G/4G network components.

Networks are becoming more complex as operators run 4G LTE, IoT, VoWiFI, VoLTE, VoIP and SS7 network components alongside 5G HTTP/2 components. The additional traffic generated by 5G is compounding problems.

The HTTP/2 Signalling Controller maximises 5G SA (Standalone) coverage for subscribers.

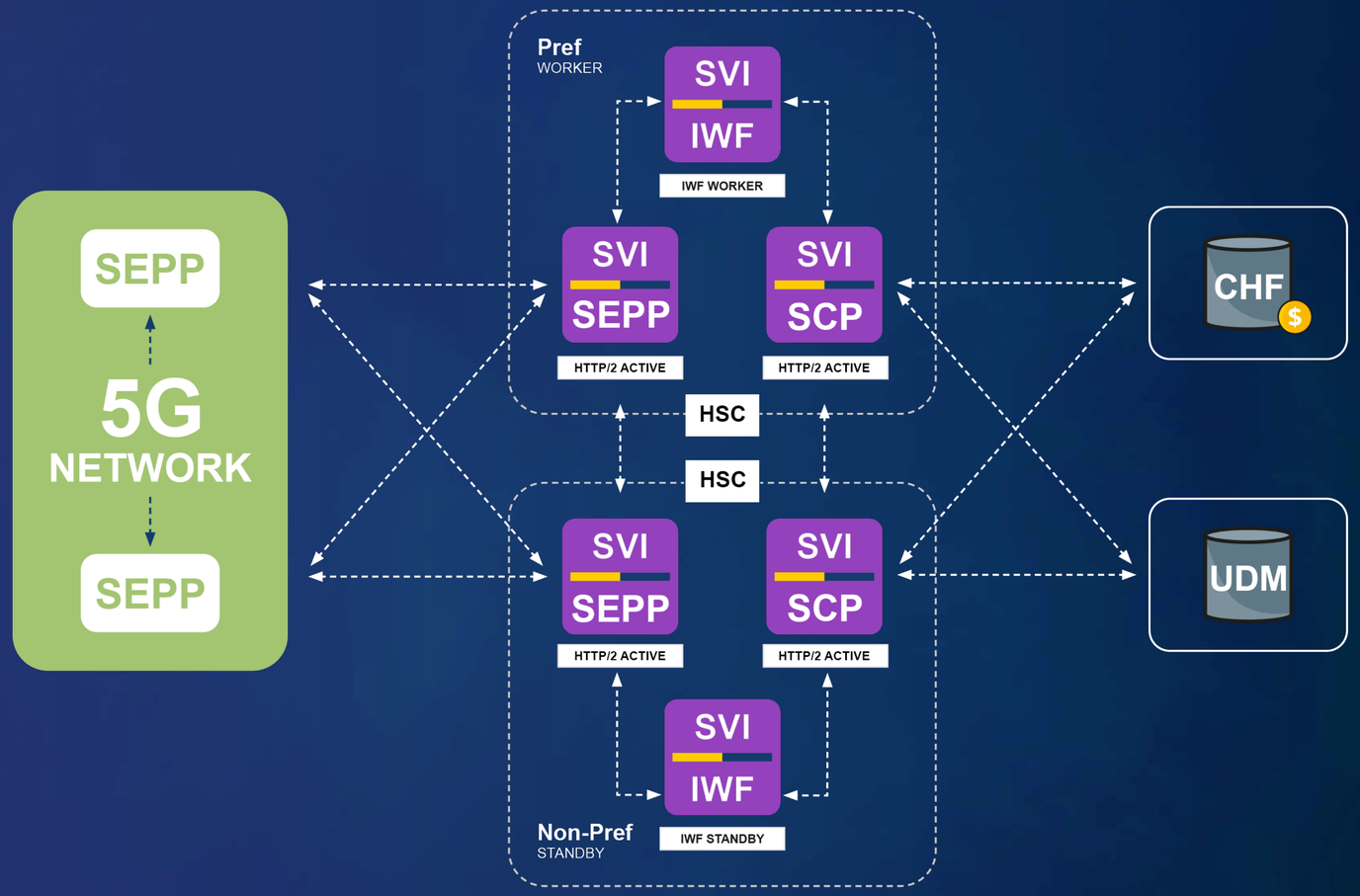
The HTTP/2 Signalling Controller enables forward and backwards compatibility between 5G and legacy network generations, while managing routing, interworking and security of HTTP/2 traffic.

HTTP/2 Signalling Controller

SVI-HSC | Redundant Architecture

The SVI-HSC HTTP/2 Signalling Controller eliminates single points of failure through full carrier-grade redundancy that replicates hardware and/or software.

All components in a multi-faceted deployment with integrated IWF supporting HTTP/2 legacy inter-op are delivered with full redundancy support.



Security Edge Protection Proxy

Advanced core network security with 5G Edge Protection Proxy

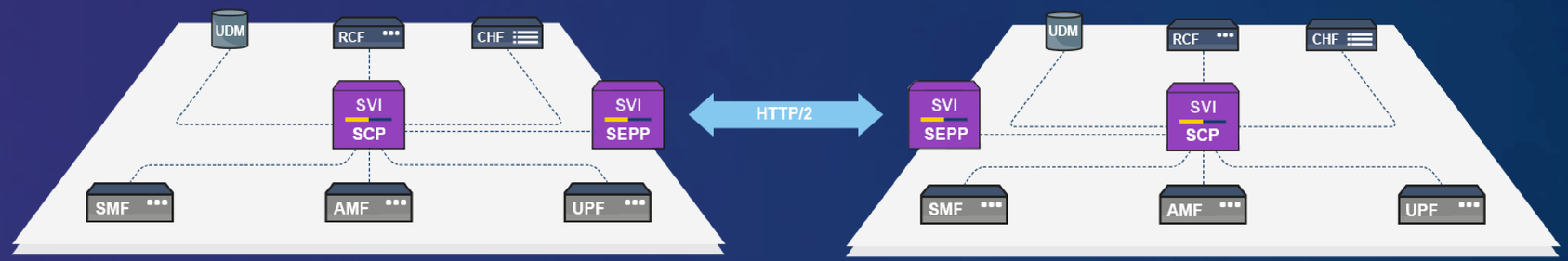
The secure-by-design SVI-SEPP provides future-ready authorisation, authentication, and subscriber policy security across 5G SA core networks.

From the edge of the 5G SA core network, the Security Edge Protection Proxy enables secure exchange of the authentication, authorisation, and subscriber policy. Unlike 4G, security is built into 5G through the 3GPP standards and the SEPP.

The 5G SVI-SEPP enables topology hiding, message normalisation and filtering, DOS and DDOS protection, load balancing and congestion control functionality for 5G PLMNs (Public Land Mobile Networks) transmissions.

Security Edge Protection Proxy

Deploying the advanced 5G SVI-SEPP provides tighter security and normalisation as part of the 5G HTTP/2 Signalling Controller:



HPMN **VPMN**

Feature include:

- Topology Hiding
- Security
- Message Filtering
- Admission Control
- DoS, DDoS Protection
- Transport over TLSPSecn
- Onboard Firewall
- Overload Protection
- Message Normalisation

Service Communication Proxy

Streamline Routing and Manage High-Volume Traffic

The SVI-SCP provides scalable, seamless routing and comprehensive carrier-grade traffic management of 5G SA core networks.

The Service Communication Proxy or SVI-SCP sits at the centre of a 5G SA core signalling network, providing dynamic load balancing, throttling and multi-vendor onboard mediation.

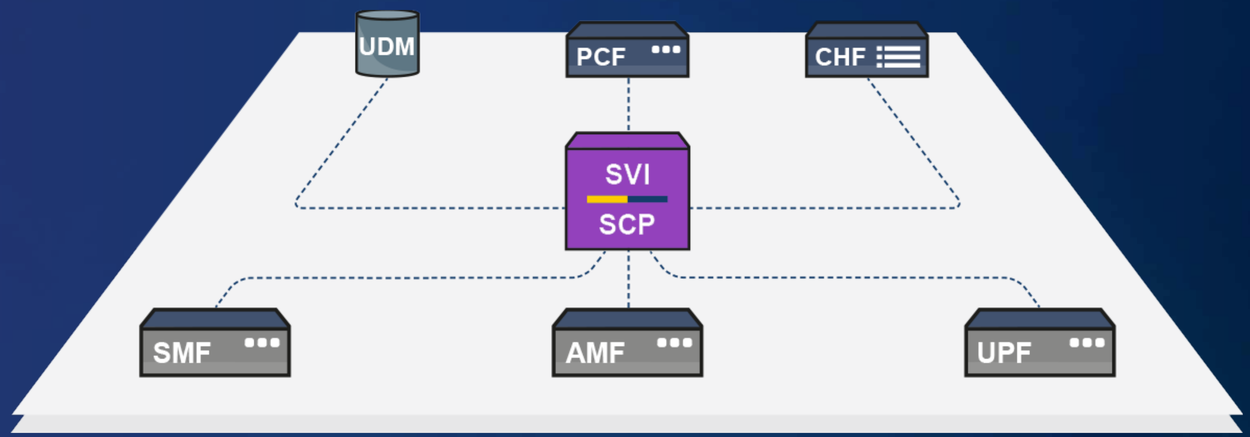
Highly customisable throttling allows control of transactions per second, congestion management, and traffic limits. Sophisticated filtering enables deny/allow listing based on HTTP/2 Header and JSON content. Remove, create, and replace messages through powerful regular-expression-based manipulation of HTTP/2 Header and JSON content.

Enjoy total control of your 5G SA core network with the NFV-compliant, high-availability, secure, and scalable SVI-SCP.

Service Communication Proxy

HPMN Home Public Mobile Network

At the core of the HSC is the Service Communication Proxy or SCP. Centralise HTTP/2 message routing within IMS and 5G SA core networks.



Features include:

- Mediation Platform
- Load Balancing
- Customisable Throttling
- Session Binding
- HTTP/2 Dictionaries
- Message Filtering
- Redirects
- Centralised Routing
- Message Manipulation

Enhance multi-generation 5G, 4G, 3G Network Functions

The SVI-IWF Interworking Function enables HTTP/2, Diameter, LTE and SS7 network interconnections to implement new revenue streams and extend network functionality and lifespan.

Mobile core networks are becoming more complex as operators seek to deploy 5G. Operators are faced with difficult trade-offs, weighing the replacement of existing network components against the revenue potential of 5G.

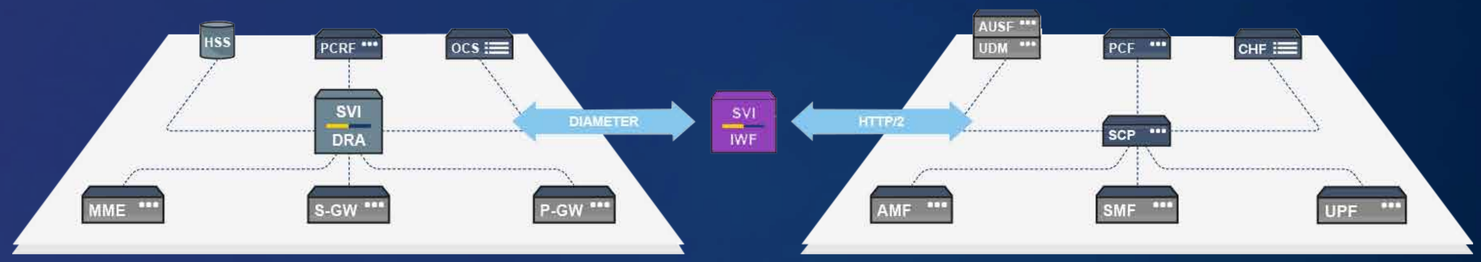
The 5G SVI-IWF Interworking Function provides networks with comprehensive forward and backward compatibility. Operators can reduce 5G deployment costs by extending the life of existing infrastructure.

The agile 5G-IWF supports 5G HTTP/2, legacy 4G LTE Diameter, and 3G MAP/CAMEL protocols, and more, as network slicing, private networks, MIMO, and other 5G functions create ever more diverse networks for signalling data to traverse.

HTTP/2 Interworking Function

4G - 5G Roaming

The Interworking Function enables mobile operators' 5G HTTP/2 networks to seamlessly inter-op with legacy networks enabling 4G <—> 5G Roaming capabilities.



VPMN 4G Network

HPMN 5G Home Public Network

WiFi Offload

Use unlicensed WiFi spectrum capacity for network decongestion using the 5G SVI-IWF for 4G and 5G WiFi or Mobile Data Offloading.

WiFi Wireless Network

HPMN 5G Home Public Network

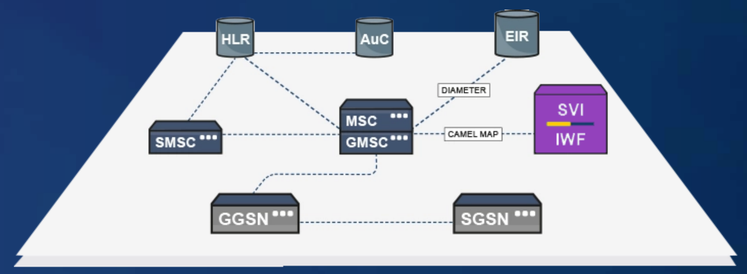
HTTP/2 Interworking Function

Hybrid and Multi-Environment Deployments

Fully on-premises, fully cloud or combination network function deployments are possible with Physical-, Containerised- or Virtualised Network Functions (PNF, CNF, VNF). The 5G SVI-IWF is part of Squire Technologies' 5G Signalling Controller, the 5G SVI-HSC, but can also be deployed as a standalone item.

Legacy Interconnect

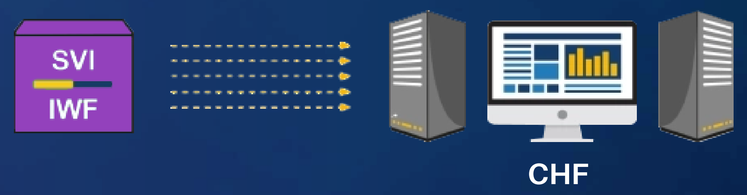
Extract additional value from legacy network components, using the 5G SVI-IWF to integrate mobile operators' existing network infrastructures with HTTP/2-based components like 5G Charging Functions (CHF).



3G Network

Interworking and Extended Support

The flexibility of the 5G SVI-IWF helps operators to stay competitive. Use it to extend and enhance operational and business layer services by integrating leading-edge CHF components in next-generation or legacy networks.



CHF

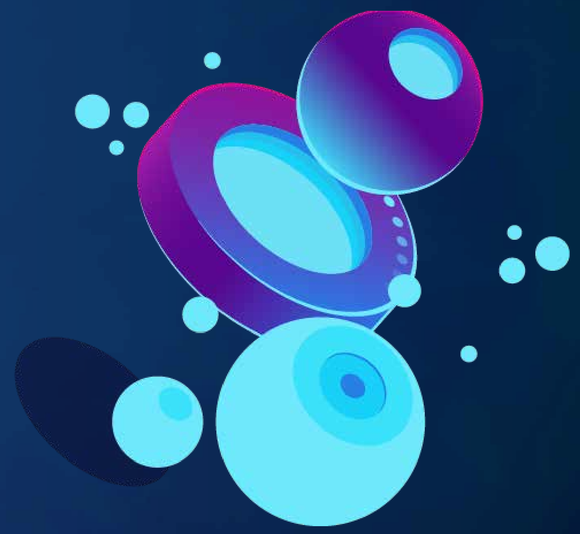
Short Message Service Function

Embrace 5G SMS with new value-added services for IoT, MFA, OFA, OTP, and legacy network subscribers, using the SVI-SMSF for rapid core network enhancements.

The SMSF, a module of our Mirus Messaging platform, is essential for SMS traffic on standalone 5G networks and bespoke network slicing.

Its forward and backwards compatibility connects 2G/3G/4G/IMS networks with future SMS interworking for 5G/6G and beyond.

A2P and MVNO SMS traffic will continue to grow as technologies evolve and industries exploit new opportunities. Operators need a future-ready SMS solution that can adapt to market demands.
The SVI-SMSF manages subscription information, roaming and legacy interconnects over the Non-Access Stratum (NAS), extending the life of existing network components. Working with the SMSC, operators can scale up, processing up to 50,000 SMS/s. Open interfaces and flexible service logic technology allow operators to rapidly provision new value-added services and differentiate their offers.



Binding Support Function

Policy Control Function support for session data binding to network functions across 4G/5G networks.

Scale your policy/charging function (PCF/CHF) network with the SVI Binding Support Function.

The SVI_BSF harmonises 5G network functions, matching session data to a specific PCF in a multi-PCF network for the duration of a subscriber's registered session. Enhance Quality of Service (QoS) configuration to enhance traffic prioritisation and reduce session delay, packet drops, and network downtime.

Ensure voice over new radio (VoNR) 5G calls utilise the same PCF used when creating an N7 session in the 5G core. Support 5G core network capabilities for third parties using network exposure functions (NEF). Utilise reporting and monitoring through network data analytics functions (NWDAF) to modify the interactions of network functions (NF) with the 5G core.

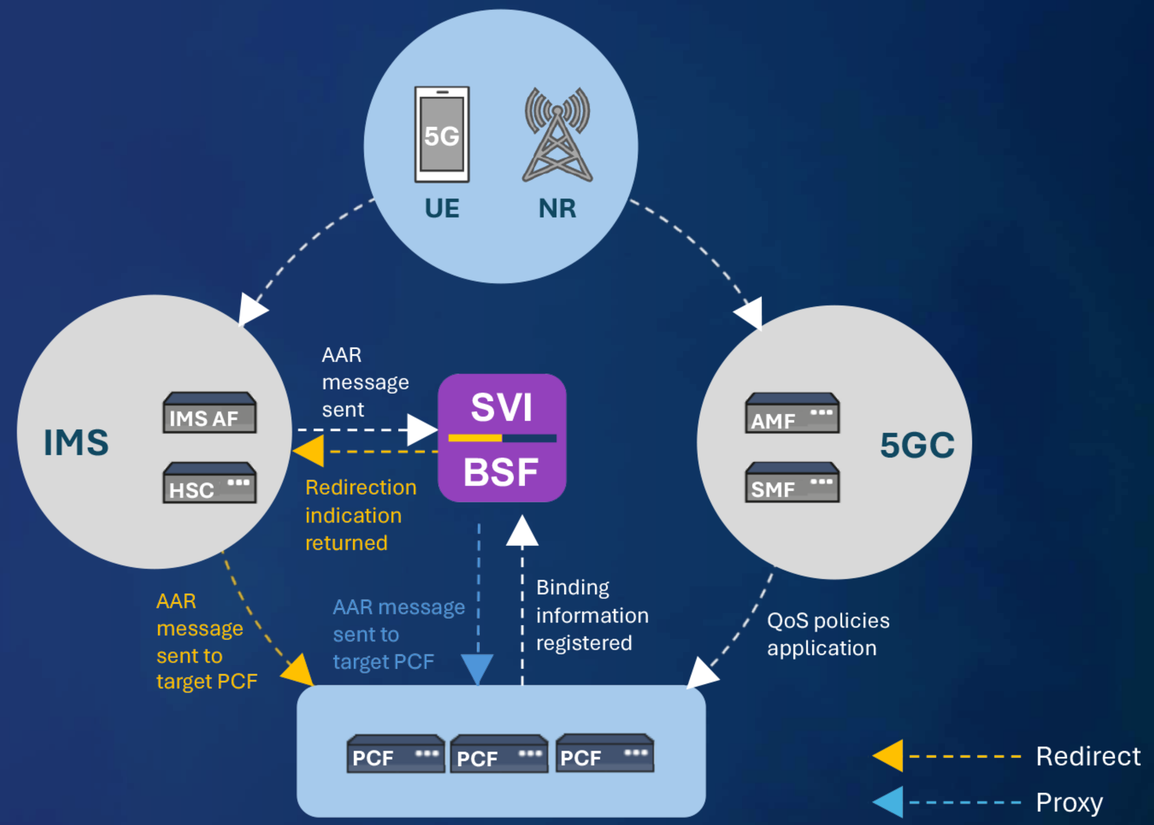
Binding Support Function

Data session location, altering and binding

The BSF enables you to easily track, update and bind data sessions with shared information elements anywhere on a network.

Thanks to the forwards and backwards compatibility of Squire Technologies' SIGLA platform, the SVI_BSF module can co-exist with a 4G Diameter Routing Agent (DRA) or Diameter Edge Agent (DEA) module to provide binding support for both 4G and 5G networks at the same time.

Deploy in any environment. The SVI_BSF can run on commercial off-the-shelf hardware, in a virtual machine environment on data servers, or fully virtualised in the cloud as a Virtual Network Function (VNF) in AWS, Azure, OpenStack, Nokia, Oracle Cloud and Google Cloud infrastructures.



Charging Function

Experience 5G monetisation, scaling up billing for the demands of 5G Massive IoT, private networks, network slicing, and eMBB and more.

Customise subscriber contracts and diversify your offer using session or event based charging across multiple applications, integrating with multi-generation networks using forward and backwards compatibility.

Billing is at the centre of all mobile network operations and business strategies. The SVI-CHF enables operators to implement new revenue streams through highly flexible billing for customers, opening the way for diversification and improved competitiveness, such as network slicing charging.

Using the nCHF interface, the SVI-CHF enables real-time authorisation, policy control and accounting, and can support online (post-paid) and offline (pre-paid) charging individually or converge them in one platform. Using the 5G SVI-IWF (Interworking Function) the SVI-CHF can be used across multiple applications and can integrate with Diameter, Radius and SS7/CAMEL interfaces for multi-generation network billing.

Other Products

4G Signalling

DSC Diameter Signalling Controller
DRA Diameter Routing Agent
DEA Diameter Edge Agent
IWF Diameter Interworking Function

SMS Products

SVI-SMSC Short Message Service Centre

3G Signalling

STP Signal Transfer Point
GMSC Gateway MSC

Voice

SBC Session Border Controller
MGCF Media Gateway Controller Function
C4/C5 Class 4/5 Softswitch

Application Development

OGW Open Gateway

Fraud Prevention

MavenShield Fraud Prevention Gateway
Prism Network Monitoring Probe

About Squire Technologies

squire technologies

Based in the UK and founded in 2001 we have spent over two decades providing innovative core network signalling solutions. As mobile network technology has evolved so have our products.

Working with service providers all over the world we understand the importance for their networks to be both forwards facing and backwards facing, enabling the delivery of services to customers across the complex mix of technologies and standards that make up our global communications networks.

Our mix of evolved network intelligence and converged multi-generation signalling delivers a high degree of agility, and makes us an ideal partner to provide signalling interworking solutions that enable previous, current and future networks to inter-op.

We operate in over
+150 Countries

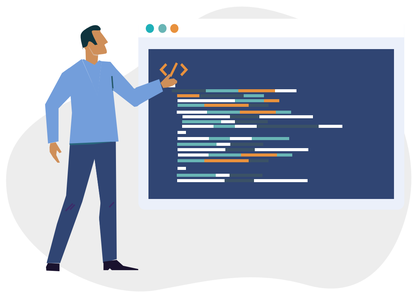
+400 Telecom Operators

+30 Billion Transactions per second

+11 Trillion Transactions per year

Product Services

Benefit from our highly trained team of installation specialists whose product and network expertise will ensure seamless installation. Take advantage of our high calibre training to deliver comprehensive product training.

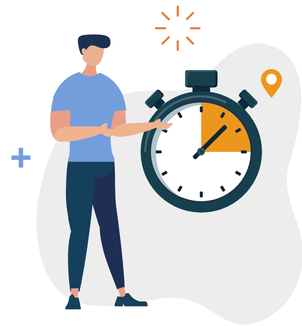


Product installation

Pre-installation configuration checklist, on-site or remote installation.

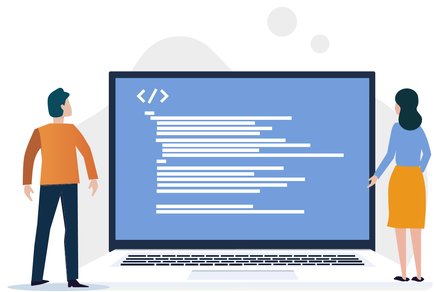
Migration & commissioning

Full commissioning and migration expertise that enable seamless network deployment.



Product training

Training available at our UK headquarters, customer premises or remote.



Product enhancement

New feature request, open API's OSS / BSS integration.

Managed Platforms

Squire Technologies mPaaS offering allows clients to lease core network products on a monthly basis. The managed part of the offering ensures that our network specialists will install and commission products directly into a client's network and provide ongoing support.

VNF ready

Delivered as a Virtual Network Function (VNF) in AWS, OpenStack, Nokia and Google cloud infrastructure. *

Reduce upfront costs

Deploy single network components or entire core networks from our extensive product solutions. Seamlessly add new network infrastructure as your business growth demands.

Test new revenue opportunities

Reduce cashflow pressures and test new market verticals with proven carrier grade network solutions.

Optimise your core network

If your network is limited by ageing End-Of-Life equipment then rapidly migrate to our state-of-the art components via our managed migration process.

Our Support Packages

Squire Technologies provides a range of post-sales support packages to meet client requirements and budget.

Platinum support is our highest level support package with the fastest response times. It provides an emergency service to assist customers who encounter a critical service affecting issue outside of UK working hours.

The Gold package adds several enhancements.
Most importantly it provides a hands on approach from the support team who will, where necessary, login remotely to clients systems to assist with troubleshooting.

Silver level support package is our starter level of support. It includes access to our tier 1 (help desk) email and telephone support during UK office hours.

Let’s Talk...

Squire Technologies Limited are a UK based core network product vendor to the Telecoms industry. Talk to us today about your 5G 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 of standardised and quality procedures and systems within the operation of an organisation.

ISO 9001 is a set of requirements against which the quality management system of an organisation is evaluated. This certification assures customers that the production processes in place at Squire Technologies 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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