

Multi instance setcom Security Gateway S-SEGW



Benefits

- ◆ Standalone multi instance SEGW
- ◆ Access to SEGW via live network, W-LAN or network simulators such as setcom S-CAT 6000
- ◆ Supports all needed 2G and 3G security & authentication algorithms such as IKEv2
- ◆ Configurable IP addresses
- ◆ Able to match specific user certificates

One of the key challenges concerning Fixed Mobile Convergence (FMC) is security of data transfer, network border control and service provisioning. As networks mature there has been an increased diversity in how traffic is moved between different networks and how customers connect into the core of an operators network. Such as using the internet as a virtual “private wire” to create a secure connection directly into the operators network.

The internet connection is paid for by the customer not the network operator, yet the operator realises not only a cheaper connection cost, enabling a more competitive offering, but also better coverage and more capacity on the macro cellular network. However using the internet does present all manner of security risks. Therefore modern authentication techniques and security algorithms are required to grant access to only those who have provisioned services and then protect the data between the network and the customer.

All this must perform within a device that has very real limits on processor, memory and power consumption.

setcom Security Gateway (S-SEGW)

The setcom Security Gateway (S-SEGW) is a product designed to support customers developing the Generic Access Network (GAN but often referred to as UMA) stack and applications on mobile devices. The S-SEGW is designed for use in a test network supporting multiple instances typically 5 or 10 per machine at a fraction of the cost of a carrier grade SEGW supporting 100,000+ connections.

Functionality	S-SEGW	S-SEGW GUI Extension
Single-instance SEGW	✓	✓
Multi-License SEGW	✓	✓
Multi-GANC	✓	✓
Configurable IPs	✓❖	✓
Dynamic Intern_IPs	✓	✓
Extern-GANC	X	✓
GUI	X	✓

Functionality matrix for S-SEGW

❖ IP address is configurable, however only within the network, i.e. 172.16.0.0

As a basic need for Security Gateway functionality, setcom offers a single instance variant of the S-SEGW that manages only one IPSEC tunnel with only one GANC.

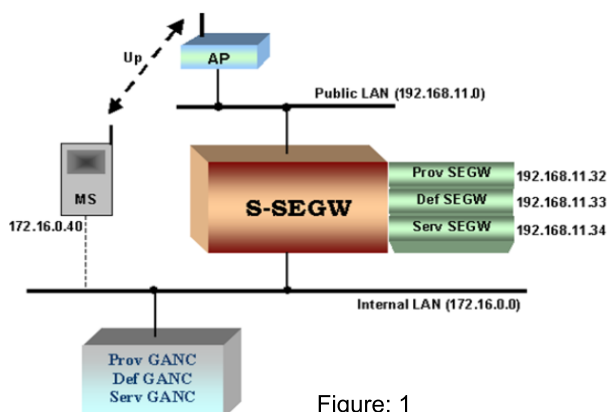


Figure: 1

However a multi instance version of the S-SEGW is available that supports up to 10 instances / PC.

The configuration procedure of the S-SEGW is performed through a login into the IP address where the S-SEGW software is running. All required parameters and settings will be predefined in an easy to edit configuration file. The S-SEGW runs on a PC running FreeBSD ensuring the security functions required by the IPSEC protocol in the 3GPP GAN specification(s).

The following security features are supported by the S-SEGW:

- Internet Key Exchange v2 (IKEv2) with Extensible Authentication Protocol-Subscriber Identity Module (EAP-SIM) for registration and authentication of mobile users
- IPsec encryption to ensure privacy for VoIP traffic
- 3 IKEv2 profiles required by GAN spec (see 3GPP TS 43.318 A.2)
- 3 IPSEC ESP profiles required by GAN spec (see 3GPP TS 43.318 A.3)

The security gateway will have 3 IP addresses to simulate the provisioning, default and the serving SEGWs. Those IP addresses are respectively 192.168.11.32, 192.168.11.33 and 192.168.11.34. The internal IP address that is allocated to the mobile station during the IPSEC tunnel establishment is not fixed, therefore the user has the possibility to set a range of internal IP addresses and the allocation process will be dynamic.

As indicated in figure 2, multiple GANCs can be managed using a multiple instances of S-SEGW running on the same machine, each instance is designed to handle one GANC.

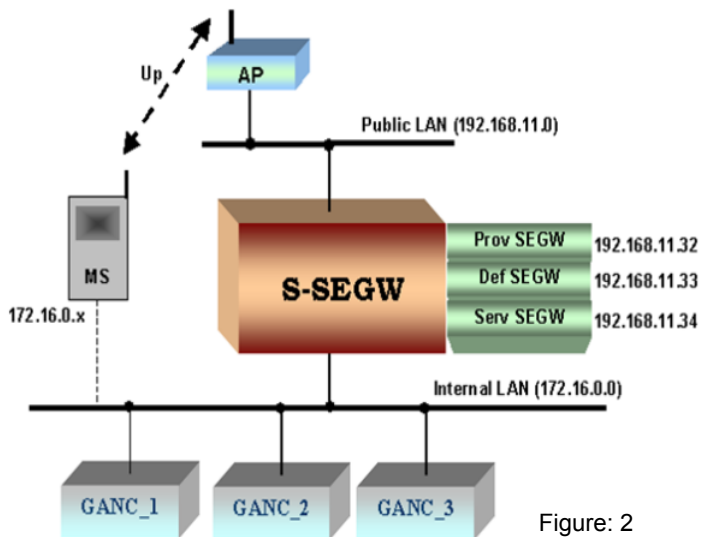


Figure: 2

However, those GANCs should be located on the same internal network.

S-SEGW GUI Extension

setcom can offer a fully-adapted solution for an external GANC with a GUI interface to easily configure the S-SEGW. All parameters would be configurable and the user could set the IP address of provisioning, default and serving SEGWs / GANCs. The only limitation for this setting is that the IP addresses set for SEGWs should be on the same subnet where the S-SEGW machine is connected.

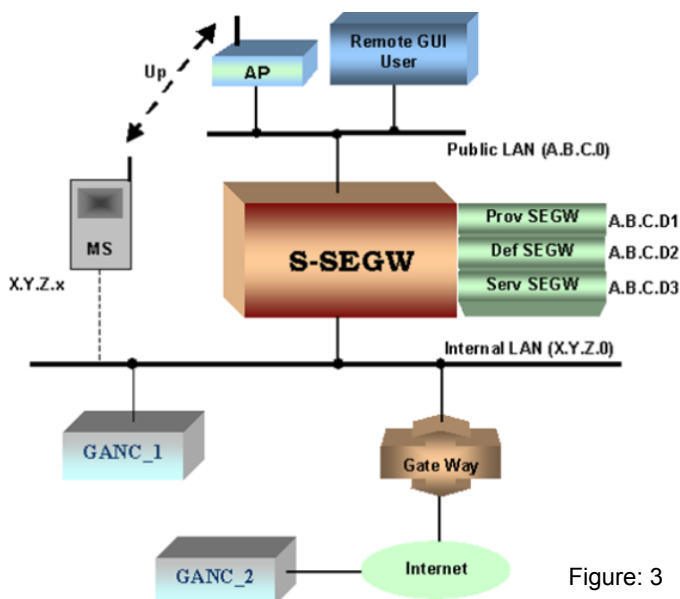


Figure: 3

For the GANCs IP addresses, there is no requirement to be on an internal or external network.

Ordering Information

Single instance S-SEGW

Option Number	Option Name
SA-P9001	Single instance S-SEGW

Multi instance S-SEGW

Option Number	Option Name
SA-P9002	Five instance S-SEGW

Multi instance S-SEGW

Option Number	Option Name
SA-P9003	Five additional instances of the S-SEGW
SA-P9004	S-SEGW GUI Extension

Rely on the market leader

setcom is the world leader in bearer-independent testing of new generation smart terminals for both multimedia applications and signalling protocols. The new S-CAT 6000 series is just another example of how setcom protects your investment in the long-term by continuous research and development, complemented with unparalleled support. Our comprehensive range of test coverage, flexible and customisable licensing options as well as an unmatched portfolio of conformance test cases result in an unrivalled price/performance ratio and the shortest time to market.

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