

# OpenCloud Rhino Service Interaction Server™

## An Operator Under Pressure

Operators are running multiple networks (2G, 2.5G, 3G, LTE,...), and yet somehow have to offer a unified set of services across these networks to their customers. There are also new networks with new capabilities, such as IMS, to consider and challenges from new entrants with new delivery mechanisms (WiMAX, VOIP, and so on). Meanwhile, services are becoming ubiquitous (Voice, Prepaid, SMS) and the price per unit (minute, message etc) for these services is falling fast. In 2010, operators were just able to maintain ARPUs by selling data packages and including more and more minutes and messages within the standard subscription bundle.

### So how does an operator:

- Differentiate itself from its competitors?
- Encourage subscriber loyalty?
- Maintain and increase ARPU?
- Achieve all of these things in a volatile economic environment?

The service development, delivery and charging mechanisms of the past are not flexible, powerful and nowhere near quick enough to answer these questions. A new approach is needed.

## A new approach to service development and delivery

Service broking and service / feature interaction technology is the answer.

Telecom Service Brokers allow operators to selectively trigger and run multiple services on a single network trigger. Telecom Service Brokers blend together services by managing the signalling interactions between the network and the service layer.

## BENEFITS

**MAXIMISE THE RETURN** on investment in existing networks and services, whilst removing the barriers to future innovation.

**EMBRACE NEW NETWORKS** and technologies, whilst at the same time minimising the impact on subscribers during migration.

**COMMERCIALLY VIABLE TO INNOVATE WITH SS7 IN SERVICES** – Create new services by reusing existing services (and / or components of services) by augmenting existing IN platforms. New service propositions may span the SS7 networks of today and the IP-based ones of the future.

**COMMON SERVICE PORTFOLIO** – Offer a new, common set of services to both prepaid and contract-based subscribers.

**SERVICE INNOVATION** – Augmenting the legacy SCP to enhance the existing services with new capabilities, for example enabling services for prepaid charging and adding location awareness, can increase customer loyalty and achieve greater market reach.

**LOWER OPEX** – Build services faster and more cost effectively.

## OpenCloud Rhino Service Interaction Server™

The OpenCloud Rhino Service Interaction Server (SIS) is a totally convergent Telecom Service Broker. It delivers a powerful, flexible, and extendable, script-driven service interaction platform which provides convergent service composition, broking and interaction functionality for both SS7 and IMS networks.

### FEATURES

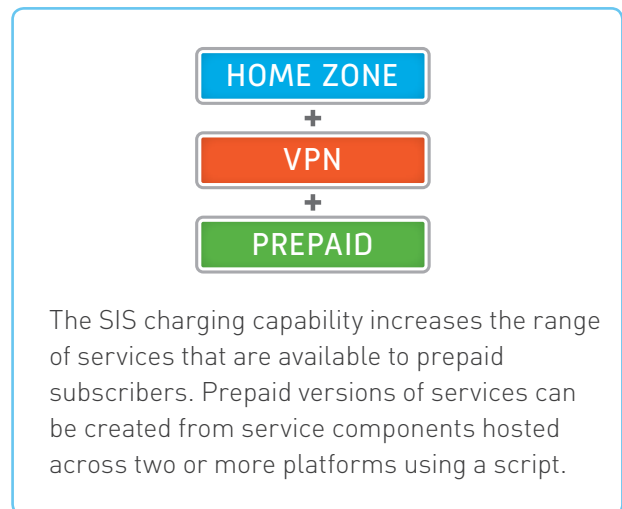
**SERVICE COMPOSITION** – Create new services by blending together multiple independent services simply, using a drag-and-drop Graphical User Interface (GUI). Compositions may include combinations of SCP, SIP Application Server and Rhino-hosted services. The interaction logic (defined by the GUI and executed in the Rhino SIS) is separate from the service code (which resides in the SCP and/ or TAS). No change to the existing services is required and users of existing services see no change in service behaviour. Rhino SIS orchestrates the services by intercepting the signalling rather than interacting with the core application logic. With Rhino SIS, Service Layer Engineers can compose new services by writing simple scripts using a Graphical User Interface. New services may be SS7-based, IP-based or hybrids. No programming skills are required to create and modify service composition scripts using the GUI.

**ADD NEW SERVICE LOGIC** – Rhino SIS allows new logic to be created and used in service compositions. This allows the Service Layer engineer to enhance existing services so that they provide additional capabilities or behave in a manner that varies by customer type or even by individual customer.

**REAL-TIME CHARGING CAPABILITIES** – Rhino SIS also has an optional Online Charging Module. Rhino SIS enables both the creation of the new service and importantly, the ability to charge for that service, whether they are pre or post-paid services. The Online Charging Module allows the service composition engineer to send real-time charging messages at various points in the service composition to the OCS. The module can inter-work with other services on the same session and is available for both circuit and packet switched networks. Online charging for a composition can be used to charge in a “standard manner”; charging per minute or per message as telecoms is typically done. Or it can be done on a completely different basis to a standard phone call or SMS. It can be used to create charging sessions/events for the “Healthcare alert service” or the “Traffic alert service” and charged on a completely different, and often premium, basis.

**REAL-TIME SESSION CONTROL** – Provides real-time session control for telecom services whether they are delivered in a pre or postpaid manner. Rhino SIS can be used to “pre-pay enable” traditional telecom services that are usually hosted on an SCP and conceived as “postpaid” services – such as Centrex, PBX and VPN. Using Rhino SIS, the service can be combined and linked to the prepaid platform and the SIS will control access to the service in conjunction with the available prepaid credit on the user’s account.

**RHINO SIS TRANSLATORS** – SIS SIP-IN and SIS IN-SIP Translators provide service layer interworking between the packet and circuit-switched networks. This allows TDM/ SS7-based subscribers to access IMS services and vice versa, avoiding duplication of services in either the TDM or IMS network.



The SIS charging capability increases the range of services that are available to prepaid subscribers. Prepaid versions of services can be created from service components hosted across two or more platforms using a script.

OpenCloud was formed in New Zealand in 2000 to create open standards-based software technology that would enable the agile development, deployment and efficient management of telecommunication services across current and next generation network technology. OpenCloud works with partners to deliver, integrate and support end-to-end solutions incorporating OpenCloud products to network operators and service providers worldwide. OpenCloud has offices in the United Kingdom, New Zealand, Spain, Singapore and Indonesia.

### MORE INFORMATION

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# New services are created by blending existing services together.

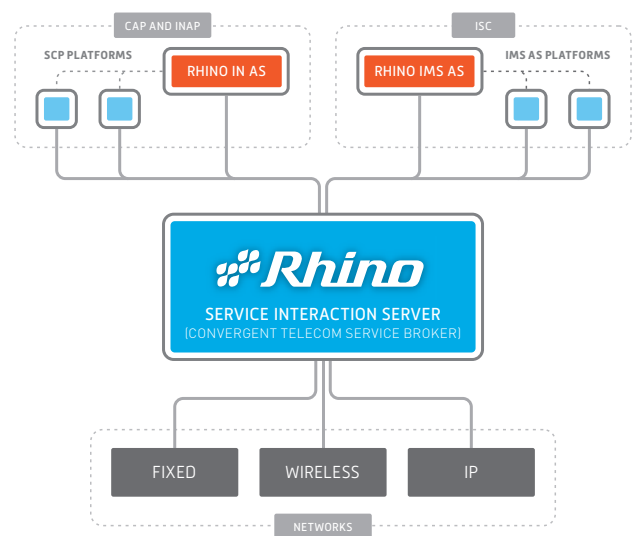
Combinations or mash-ups of 'smart' next generation and traditional telecom services create enhanced services. With increased customer personalisation and orchestration of speech, text, messaging and data services, operators are able to add significant value to their customers.

## How does the SIS work?

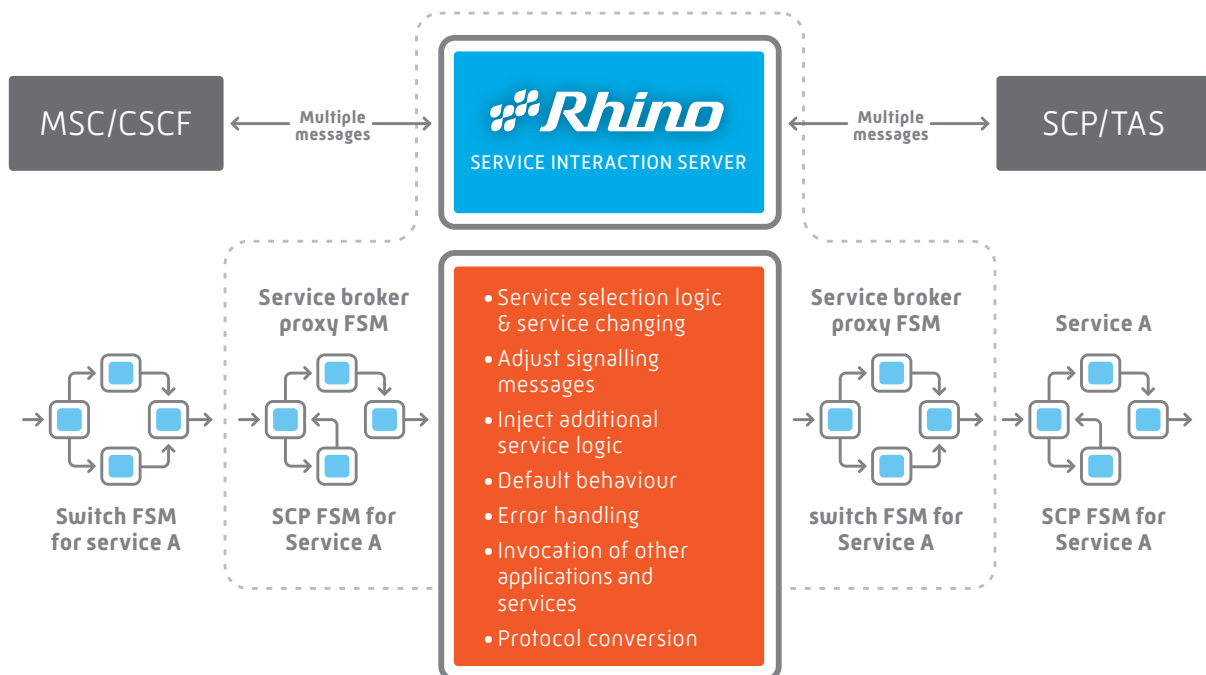
The OpenCloud SIS interposes a **service-interaction layer** between the service layer and network layer. The service-interaction layer implements a service-to network interface.

The network appears as though it is interacting with a single service. From the perspective of each of the services in the composition, the service-interaction layer appears to be the network. To do this, the SIS maintains a finite state machine model for each of the services and also for the switch or CSCF in the main network.

The SIS manages and coordinates the signalling between each individual service to create a new, combined service. The SIS is responsible for ensuring that the composition is comprised of a coherent and consistent stream of messages between the service platforms, the SIS and network.



Rhino SIS can be deployed as a stand alone product, or as an integral part of the Rhino TAS platform.



## For further information

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