



CSG ADVANCED ROUTING OPTIMIZATION

MAXIMIZE PROFITABILITY AND
DETERMINE THE OPTIMAL ROUTE
FOR TRAFFIC



TOGETHER, YOU WIN.

ROUTE OPTIMIZATION AS WE KNOW IT

Historically, the switches in an operator's network were propagated with limited and proprietary routing tables. This quickly became an untenable approach, due to the sheer size of the tables and the logic required. The switches simply couldn't keep up.

This gave rise to a generation of routing platforms that managed the route and rating logic and then interfaced directly to the switches to provide the provisioning information. Any of these platforms was required to support a veritable laundry list of switch types and protocols to ensure adequate support for any given carrier's network.

Now, carriers have an even better option by leveraging a next generation Carrier Route Optimization model. By using a centralized Signaling Layer approach to address the complexity and diversity of switch provisioning, carriers can unleash the full power of routing platforms that use complex algorithms to determine the best route based on any number of key parameters.

As a result, operators have deployed a layered approach that utilizes a Centralized Signaling and Routing Controller (CSRC) to remove the potential limitations placed on the trading and routing platform.

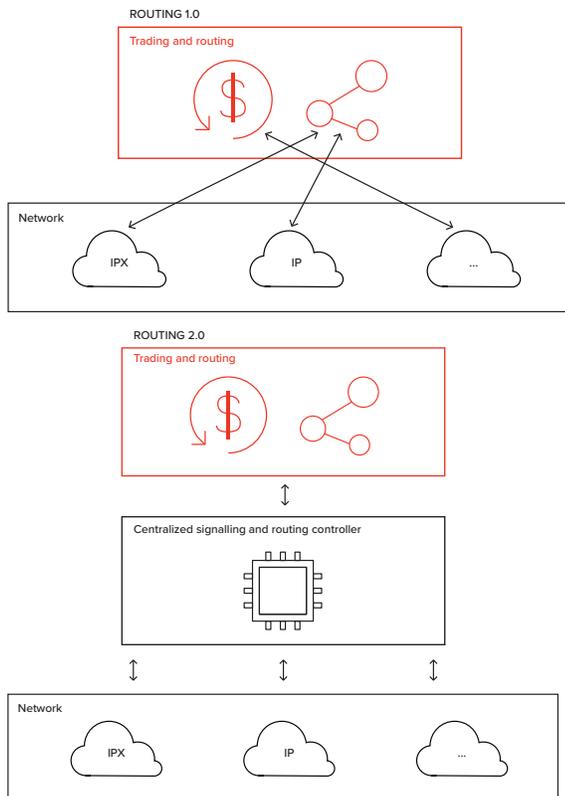
The CSRC assumes the role of interworking with diverse and complex signaling platforms, delivering the business logic provided by the routing platform and provisioning the switches appropriately.

In recent times, the CSRC has been provided by third-party vendors to the trading and routing platform. This loose decoupling of the CSRC from the trading and routing platform means there is an overhead of integration, operational load, and skills required to support each system.

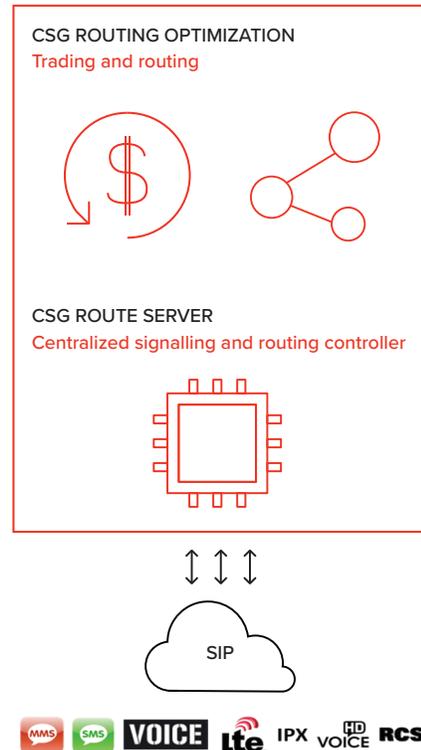
THE WAY FORWARD WITH CSG ADVANCED ROUTING OPTIMIZATION

CSG has developed a switch agnostic, ultra-scalable solution that optimizes vendor independence. This integrated CSG solution combines CSG Route with CSG Route Server to deliver an integrated, future-proof solution.

CSG Route is one of the leading trading and routing solutions on the market, and CSG Route Server is based on proven technology deployed at scale with leading operators around the world. The CSG Route Server is deployed to provide a common, virtualized platform for SIP signaling control and routing policy enforcement in the network.



CSG ADVANCED ROUTING OPTIMIZATION



The CSG Route Server is situated as the network adaptor between CSG Route and the switches, or SBCs, owned by the operator. CSG Route provisions its destination and routing analysis logic directly into the CSG Route Server, instead of being restricted by the limitations on the provisioning interfaces of the classical switching or SBC platforms.

The CSG Advanced Routing Optimization Solution is shown in the diagram above.

The CSG Route Server communicates directly with the switching elements in the network via the SIP protocol. This allows carriers to leverage the full potential of CSG Route, regardless of service or switch type, creating a best-in-class, intelligent least-cost routing (LCR) solution.

This in turn unleashes the full power of CSG Route in determining not just the least-cost route but the optimal route for the traffic involved. Service quality and differentiation factors can now be employed when selecting the optimal route.

These enhanced factors include:

- Cost vs. quality
- Capacity
- Margin
- Network type
- Codec e.g. HD Voice
- ENUM
- Origination
- Number portability



HOW IT WORKS

Deploying CSG Route Server and CSG Route allows the CSG Route application to provision all its routing intelligence and business rules into the centralized signaling and routing server, letting the Route Server take charge of interworking with network elements in real time using the SIP protocol.

The CSG Route Server is by nature a highly redundant and globally distributable architecture, maximizing resilience and service availability. Its centralized provisioning capabilities ensure a smooth integration with CSG Route. The information loaded into the Route Server is distributed into a constellation of processing nodes, which can be deployed continents away.

The combination of CSG Route with the CSG Route Server and its SIP redirect routing modes can be used in some of the most complex routing networks. After receiving an incoming call in the form of a SIP INVITE, the Route Server will analyze all message information and apply routing decisions based on the information provisioned by CSG Route, thus acting as an LCR engine. CSG Route provides excellent business and service awareness, which is then enhanced by the highly reliable and flexible CSG Route Server.

MAXIMIZING PROFITABILITY

CSG Route with CSG Route Server as the Centralized Routing Server provides numerous business and operational benefits. The multi-vendor support provided by the Routing Server eliminates the need to create switch-specific interfaces, relying instead on the non-proprietary SIP standard. This one-to-many simplification saves cost and time, as well as providing the ultimate flexibility as partners and network elements change over time.

This same flexibility extends to the routing algorithms, which are no longer hampered by the switch vendors' existing logic. It also positions the carrier to take advantage of the so called "A-number" routing. International rates can now vary significantly based on the originating A-number country or even network.

By using A-number trading and routing, carriers can differentiate their rates and routing based on origin-based rates (OBR), thereby competing effectively and realizing cost optimization.

ABOUT CSG

CSG simplifies the complexity of business transformation in the digital age for the most respected communications, media and entertainment service providers worldwide. With over 35 years of experience, CSG delivers revenue management, customer experience and digital monetization solutions for every stage of the customer lifecycle. The company is the trusted partner driving digital transformation for leading global brands, including Arrow, AT&T, Bharti Airtel, Charter Communications, Comcast, DISH, Eastlink, iFlix, MTN, TalkTalk, Telefonica, Telstra and Verizon.

At CSG, we have one vision: flexible, seamless, limitless communications, information and content services for everyone. For more information, visit our website at csgi.com and follow us on [LinkedIn](#), [Twitter](#) and [Facebook](#).