



## The Client

A leading United Kingdom-based provider of software products and services that help connecting the Internet / IT domain and the Telecom domain and enable the telecom companies to offer a wide range of new services

## Industry

Telecommunications

## Technology Utilized:

- OpenDiameter, Radius, Orbix Corba, Oracle 10g, Diameter, SS7 Stack (Ericsson), SIP Stack (Arcent), Xerces, SNMP, STL, GNU Make, GNU Compiler Collection, SUN Forte Compiler Collection, CPPUNIT, ASN.1 Compiler

## The Business Challenge

The Network Gateway is an essential element that connects disparate networks and makes them work seamlessly together. It accomplishes that by providing a network abstraction layer that sits horizontally across network platforms such as switches, messaging systems, charging/rating systems and HLRs, and provides a common, standardized set of northbound APIs that simplifies the process of new services launch and delivery across multiple network protocols and platforms from different vendors. Services that are developed using these APIs are network-agnostic, i.e. the same services can be deployed across fixed and mobile networks, as well as within and between circuit-switched "legacy" networks and packet-based IP / IMS networks. The client was faced with a tough delivery schedule for a new version of Network Gateway. At the same time, the rapid market expansion has strained the company's resources to the limit. The decision was made to look for an outsourcing partner who possessed the required expertise, had excellent track record and was located in a similar time zone. Following thorough evaluation process, a number of Eastern and Central European vendors were selected. Finally, Luxoft emerged as a leader, thanks to its strong telecom expertise, impressive portfolio of accomplishments and geographic proximity.

## The Solution

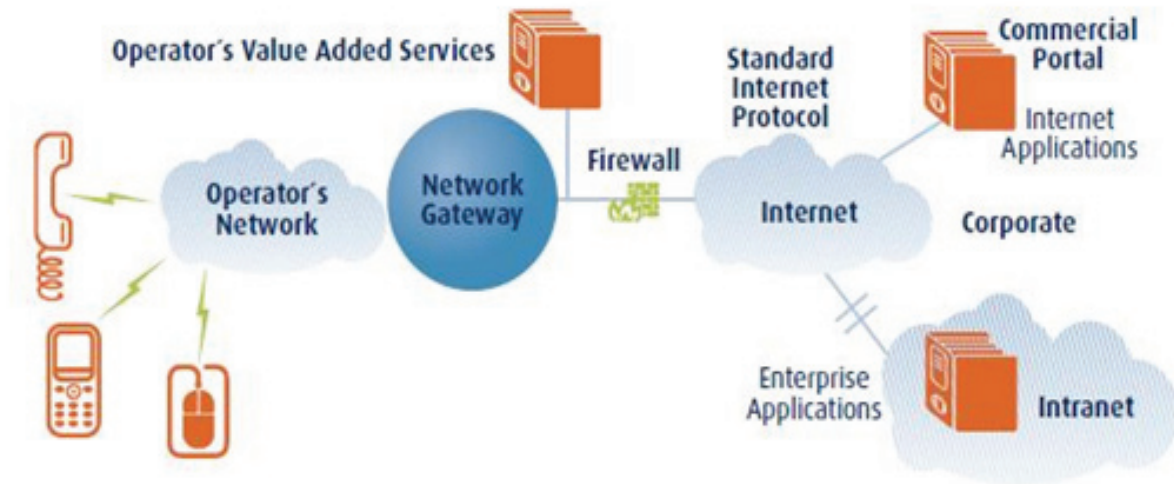
LUXOFT, together with the client has developed a new version of the product with the following functionality and features:

### Increasing the Flexibility of Service Deployment

The Network Gateway architecture, which contains a secure and trusted access capability, allows services to be developed and deployed on the platform itself, on remote clients in the corporate domain, or by 3rd Party Developers. Allowing commercial Portals and Corporate users to deploy services in addition to the existing ones not only increases the network usage and the resulting revenue, but provides a more differentiated service to the end-user, increasing the subscribers' loyalty.

### Standardizing the Network Interface

Decoupling the network technology from the application simplifies the delivery of new and existing applications and future-proofs them for the next generation of network technologies. It also simplifies the process of future network upgrades and network expansion or reconfiguration.



## Simplifying the Development and Deployment of New Services

The Network Gateway dramatically reduces time and cost required to develop and deploy new services, thanks to its support of industry standard interfaces. Application developers don't need to write code for specific networks and environments, reducing risk and cost, and allowing new services to be delivered via the network operator's channel. Because the services are network-agnostic, the same services can be deployed across fixed and mobile networks, as well as within and between circuit-switched "legacy" networks and packet-based IP/IMS networks. Additional benefits in application development and deployment are achieved by using the Client's Telecom Application Server framework.

## Off the Shelf Applications Available from a Variety of Vendors

A number of off-the-shelf applications can be supplied by the Client, Luxoft or a number of third party providers. The Network Gateway does not have proprietary interfaces. The standard-based gateway eliminates the traditional restrictions when the applications have been closely tied to the network platforms, and enables a wide choice of application vendors that support industry standard interfaces.

## Changing the Business Model

The reduction in cost, lead-time and risk to deliver new services increases the range of possible business models allowing a shift from a utility model to a differentiated services model. The differentiated services are the key to maximizing subscriber loyalty and penetrating new niche markets.

## Ease of Network Integration

The primary objective of the Network Gateway is to ease access to the network. Therefore, one of the key objectives was to ensure that it integrates easily with existing networks. From a network management perspective, this has been achieved by using established and well-understood management technologies (HTTP and SNMP) as well as ensuring that flexible data feeds (including CDR generation if required) are available. Client has an established track record working at the bearer network level and the Network Gateway has been repeatedly and successfully deployed around the world across the entire range of telecom networks.

## Carrier Grade, High Availability, Highly Scalable Architecture

The Network Gateway is typically deployed in a mated pair configuration containing a primary gateway and a secondary standby system.



Process failures on the primary gateway are detected by the management entity, and, when feasible, the process is restarted and primary gateway operation is maintained. However, if failure on the primary system is critical, processing is transferred to the secondary one and the gateway operation continues. This protects against both hardware and software failures. This configuration has been successfully deployed in numerous operators and has proven to be highly resilient.

## Network Interfaces

Call Control	
Generic Call Control	ETSI INAP CS1, ETSI INAP CS2, ETSI CAP Phase 1 and Phase 2 (Phase 3 enabled)
Multi-Party Call Control	Ericsson INAP CS1+, SIP 3GPP ISC
User Interaction	
Call User Interaction	ETSI INAP CS1, ETSI INAP CS2, ETSI CAP Phase 1 and Phase 2 (Phase 3 enabled), SIP 3GPP ISC, Netann, VoiceXML
User Interaction	ETSI INAP Phase 2+, 3GPP MAP, SMPP, UCP, Nokia EAIF, WAP Push Access Protocol, WAP Service Indication, WAP Service Load
Mobility	ETSI MAP Phase 2+, 3GPP MAP, OpenLS, LIF MLP
User Status	ETSI MAP Phase 2+, 3GPP MAP, ANSI IS-41
Terminal Capabilities	WAP Push Access Protocol
Data Session Control	ETSI CAP Phase 3 GPRS
Charging & Account	Diameter (Ro), Radius, XML (UMD/MAF5)

## Benefits

Partnering with Luxoft enabled the successful product launch on time and on budget

- Luxoft’s highly professional delivery team collaborated efficiently with the client’s core team, starting from a thorough analysis at the initial stage to a regular reporting throughout the duration of the project
- Luxoft engineers demonstrated proactive approach by suggesting a number of improvements to the product design, instead of simply following the listed requirements
- Luxoft know-how in automated testing software reduced the testing time significantly, while increasing the accuracy
- Luxoft showed an unwavering commitment to meeting the client’s need, ensuring the client’s peace of mind during the entire project

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