

## Project Note

# Erlang and Massively Scalable Mobile Gateways

MIG required expertise from Erlang Solutions to design, build, test and implement upgrades to its Messaging Gateway, which converts protocols, queues messages and reports on events processed by the platform.

## Task

In November 2009 MIG decided to upgrade their Messaging Gateway to cater for increased capacity requirements, which included the following:

- State-of-the-art core technology
- A resilient multi-homed network
- Capability to scale to unlimited number of direct interconnects worldwide
- A native high performance voting application
- High-speed advert insertion
- Real-time client reporting
- White-labelling and client dashboards

## Implementation

MIG required Short Message Peer to Peer (SMPP) and Universal Computer Protocol (UCP) stacks, capable of delivering short messages between SMS peer entities to a fixed deadline. SMPP and UCP are used by clients to connect to the mobile network operator's Short Message Service Centre (SMSC).

MIG worked with Erlang Solutions to architect and design the system upgrades. Additionally, Erlang Solutions worked closely with domain experts and other specialists across Europe to ensure the project ran smoothly and to time, and helped MIG get the right infrastructure in place.

The build phase of the project ratified the architecture designed by Erlang Solutions, confirming Erlang as the best choice of programming language for this system.

Implementation of the upgrades was carried out smoothly, given the complexity of the project. Erlang's designed-from-the-ground-up fault tolerance proved to be critical to the success of the project.



## Why Erlang

- MIG chose Erlang and OTP (Open Telecom Platform) because the project needed a distributed, scalable, maintainable and fault-tolerant system – all of which Erlang could provide in a tight timescale.
- The Erlang environment is particularly suited to high-performance, highly reliable and resilient computing environments, where uptime and the ability to cope with the challenge of change are critical to the success of the project.

## Customer Benefits

- Erlang Solutions has accumulated unrivalled expertise and experience in these types of projects and had previously built similar gateways in Erlang for other high-profile companies.
- Performance testing showed 'better-than-expected' results, which is crucial for a high-performance Messaging Gateway.
- With Erlang Solutions, MIG was able to deliver a complex project on time and on budget.



## Customer Data

Clients include:

- Facebook
- PlayStation
- New Look
- M&S
- O2
- Vodafone
- ITV
- Sky
- Barclaycard
- NHS
- Nokia
- Samsung

## Technical Data

Protocols:  
HTTP, SMPP, UCP, TPG  
(Third Party Gateway)

Gateway handles:

- single text SMS
- multipart text SMS
- single data SMS
- multiple data SMS
- WAP push

Data Store Architecture:  
Mnesia, Riak, Bitcask,  
Vertica

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