

Infinity Server

The Infinity Server is the backbone that supports our massively scalable mobile messaging systems.

A Proprietary Messaging & Integration Platform

The CommonTime Infinity Server has been designed to support the complex integration and communication needs of the UK's largest public sector bodies.

Although all modern, mobile communication systems require a robust, scalable server-side environment in order to handle an increasing number of connected users & devices - nowhere is this more apparent than in the organisations which provide crucial public services.

The Infinity Server - written in Erlang, implemented with Ejabberd and deployable via Docker - is a vital element of CommonTime's next-generation messaging solutions. This can be hosted in the cloud or on-premise depending on client requirements.

The key benefits of this setup include a clustered structure

that supports automatic load-balancing and failover, adherence to all SSL/ TLS best practices and the option between a web-based & command line interface for administration.

In addition to supporting high volumes of traffic, we have developed a server environment which is extensible via pluggable modules, bots and third party data sources. This architecture is vital to our vision of messaging applications as a platform upon which to build.

The result of this is that applications utilising the Infinity Server are able to integrate into recognised clinical systems - including electronic patient records, patient administration systems and any other software users would access on a regular basis.

Ejabberd - the technology behind our Infinity Server - has a rich 12 year history and supports a range of services for organisations such as the BBC, Nokia, Kodak, Facebook, Snapchat and WhatsApp.

The Advantages of Erlang & Elixir

The CommonTime Infinity Server is predominantly written in Erlang - a stable, general purpose programming language & runtime environment with over 20 years of history. Initially developed by Ericsson, Erlang has been used in production by a number of high-profile organisations including; Amazon, Yahoo, LastFM and Github. However, most importantly, Erlang supports a high volume of concurrent activities, task distribution and fault-tolerance.

Elixir is a much more modern language which compiles down to the Erlang VM, providing a powerful macro capabilities and a rich tooling ecosystem. Developed for building scalable, yet maintainable, applications - Elixir code runs inside of lightweight threads of execution. Because of this structure, Elixir is ideal for running thousands of concurrent processes; a vital element of any communication system.

Every decision made in the design and development of the Infinity Server has been in order to create a powerful, future-proof platform that can handle a limitless volume of messages and integrations. With Erlang and Elixir, our team have found this - all within a secure, controlled environment.