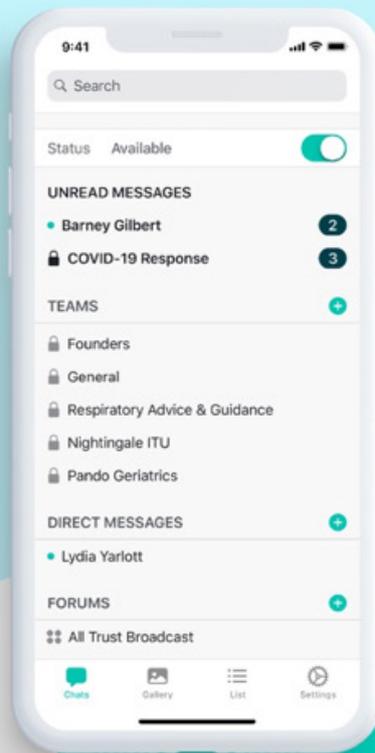


# Approved.



Now available in the  
**NHS Apps Library**



## REPLACING WHATSAPP AND LEGACY PAGERS WITH MONGOOSEIM IN HEALTHCARE

**Pando Health** is an ambitious healthcare app that aims to modernise the way doctors communicate with each other. Prior to its introduction many healthcare professionals working for the United Kingdom's National Health Service (NHS) still used ill-fitting technologies such as WhatsApp or outdated solutions like pagers.



### CHALLENGE

Communication is a complex topic, especially in the context of healthcare. Doctors and nurses all around the world need to communicate as the basis of providing care. When deciding on the communication platform there are major factors to be considered in their environment.

From scalability, customizability and available support to the level of control over the services and strength of the community behind the chosen communication tool. When healthcare is involved, these deliberations require extra care.

Pando Health is a medical app allowing healthcare professionals to communicate in a secure and compliant way that was brought to life by a group of junior doctors and technologists. Their idea was to connect healthcare and build a modern, simple tool featuring chat and support complex communications between doctors and clinical teams in the hospital.

Pando Health

**SECURE &  
COMPLIANT  
MEDICAL APP**



The initial prototype was based on a proprietary SaaS messaging platform. This solution helped us build the first version of the app quickly, learn more about the problem and the needs of the community of users.

Although the chosen SaaS messaging platform featured a very well designed SDK, it had limitations that prevented it from scaling to the level required.

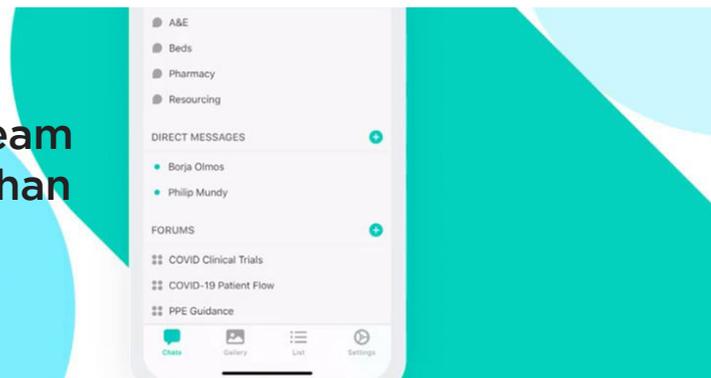
Eventually this led to a decision to switch to a new, XMPP based messaging solution.

While looking for a new solution, MongooseIM was identified as the right tool for the job. It is an open source, highly scalable messaging server, developed and supported by Erlang Solutions.



**“Most doctors use WhatsApp for daily communication. To win with a mainstream app we had to build something more than just another chat application.”**

Philip Mundy, Pando Health Co-Founder



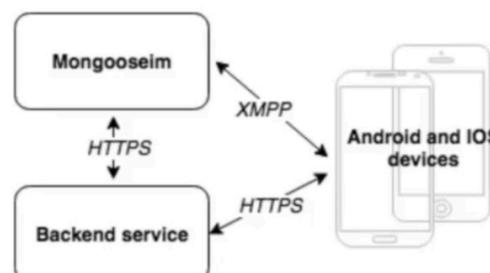
## SOLUTION

Erlang Solutions was able to simplify the overall architecture of the system to contain only three components: iOS and Android devices, MongooseIM as an XMPP server and the authentication service. There are two protocols used: XMPP and HTTPS. The first one is used between mobile phones and MongooseIM, whereas HTTPS is used for connecting to the custom backend by MongooseIM and the devices.

MongooseIM has a modular architecture, it consists of multiple blocks, such as inbox, group chat, push notifications and message archive management (MAM) which can be plugged in or disabled, depending on the project's needs. The overall idea is that it enables flexible solutions, where blocks can be added to the architecture with ease.

Key features migrated from the previous SaaS platform to MongooseIM:

- + Home screen & unread messages count
- + Push notifications
- + Multi-user chat
- + Message archive
- + Timestamps



## ARCHITECTURE

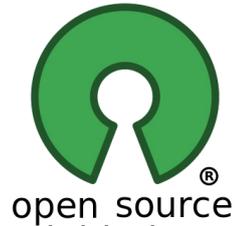
**SIMPLE  
RELIABLE  
SCALABLE**

# RESULT

Migration to the MongooseIM platform solved the scalability limitations and significantly improved the visibility and traceability. Because of the nature of XMPP, there is a lot of room for configuration and customization. This created the possibility for future extensions of the chat functionality of the Pando Health app.

There was some effort required to wrap up the XMPP related code. However, it allowed for a minimisation of changes to the application itself. As a result, there were much fewer bugs during the migration.

The development of the new inbox functionality was initially sponsored by Pando Health and later on incorporated into the open source MongooseIM project, so the wider community could benefit from this feature.



## KEY BENEFITS

- + A secure chat system that has been NHS approved
- + The reliability and scalability to become the UK's most used medical communication app, used by over 65,000 professionals
- + Push notification settings which ensured delivery even when a user is not connected to the server
- + Group chat that allows collaboration of medical professionals without compromising the security of patients



APPROVED  
BY NHS



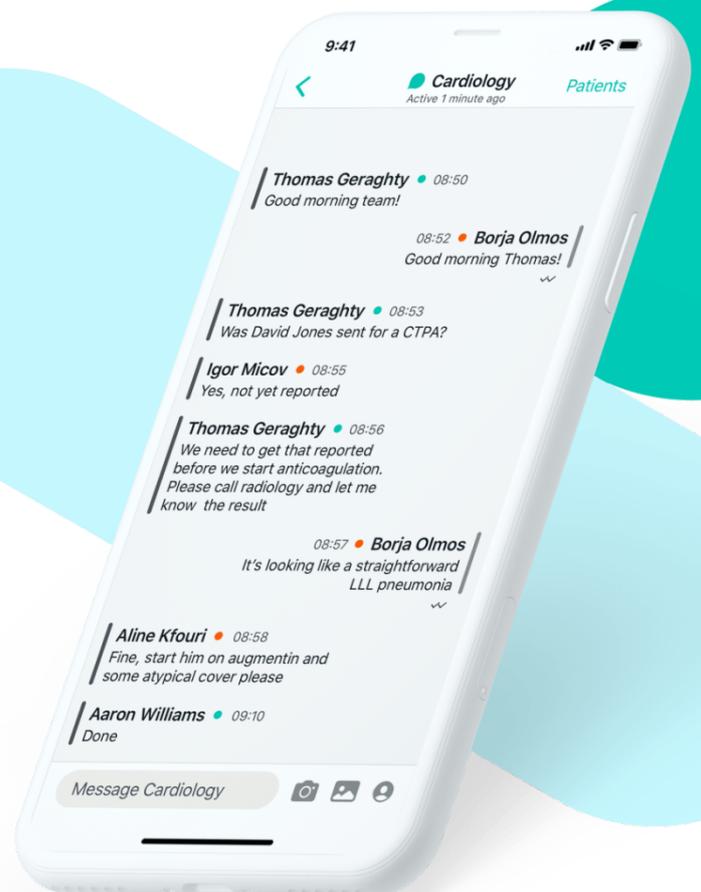
45,000  
USERS



RELAIBLE  
DELIVERY



SECURE  
COLLABORATION



# OUR EXPERTISE

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Our team are world-leading experts, with over a decade's experience in messaging technologies including XMPP, MQTT, EMQx, Erlang and Elixir. We can help you build scalable communication systems specific to your needs, so you can start small and grow to match your ambition and imagination.

We created MongooselM to provide business and product owners with the reliability of a battle-tested Instant Messaging server that can scale to 10s of millions whilst still providing flexibility to customise and build your own solution without using blackbox technologies or the need for the ongoing subscription costs of a software-as-a-service solution.

We've built some of the most in-use messaging solutions for dating apps, social media services, financial service providers and healthcare professionals. As a result, we understand a diverse group of user requirements and industry regulations and we are able to provide a tailored range of services including development, training and technical support.

Whether you have thousands of users or billions, we'll make sure they get the message. With MongooselM we deliver:

- + Real-time communication
- + One-one messaging and group chat
- + Social features to add to app for publishing and commenting on articles
- + REST API for backend integration, and for client/server development
- + Low failure/downtime
- + Excellent end-user experience
- + Clean and modular design
- + Support for push notifications, a metrics system, message archive management
- + Easy integration with WombatOAM for monitoring



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## WWW.ERLANG-SOLUTIONS.COM

Erlang Solutions is a tech consultancy that builds transformative, fault-tolerant solutions for the world's most ambitious companies. By providing user-focused consultancy and high tech capabilities, Erlang Solutions has built strong and long-lasting relationships with clients including WhatsApp, Klarna, Motorola, PepsiCo, Cisco, Ericsson and Adidas Runtastic to name a few.



Contact us to discuss your project [general@erlang-solutions.com](mailto:general@erlang-solutions.com)