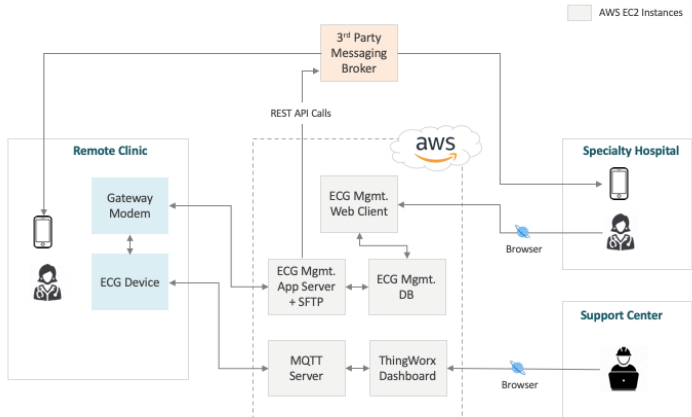# Case Study: Migration of ECG Management Solution to AWS

Client Requirements

This leading provider of medical imaging and medical equipment solutions has a critical care business with a suite of ECG devices and a thick client ECG management solution.

The client's objective was to migrate their ECG management solution from on-premise to a public cloud, and to establish connectivity between ECG devices and their cloud-based ECG management solution.

CitiusTech was chosen due to proven expertise in cloud migration for healthcare solutions and device connectivity.

Solution Schematic

CitiusTech Services:

- Conducted feasibility analysis on migration of client's application to AWS cloud, and its connectivity with legacy ECG devices

- Migrated a thick-client ECG management solution to AWS in a three-tiered architecture (DB server, web server, application server)

- Established a secure data pipeline using HTTPS, between ECG device and cloud solution to send ECG files, using AWS SQS and AWS Lambda

- Built remote servicing capabilities using MQTT protocol and ThingWorx solution, which was hosted on AWS

- Built a cloud-based analytics dashboard to capture operational metrics

- Built a SMS notification feature into ECG management solution using a third-party messaging broker

Value Delivered:

- **Helped establish connectivity between ECG devices in remote areas and cardiologists** in specialty hospitals

- Significantly **reduced service engineer effort to perform maintenance** on ECG devices

- **Eliminated the need for on-site maintenance visits**