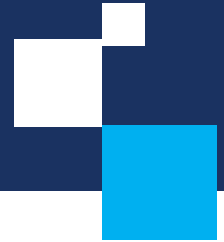# AWS cloud platform for device analytics and population health

Client Requirement

Client is a leading provider for medical devices, cloud analytics and CitiusTech partner for 4+ years.

Client has several patient therapy devices interfaced with Hospital EHR systems through one-to-one binary interfaces.

This siloed data presents a challenge due to a focus on expanding patient care and device analytics from the client. Client would want to access device data seamlessly for clinical and administrative efficiencies

<12h
Access to Device data

>99%
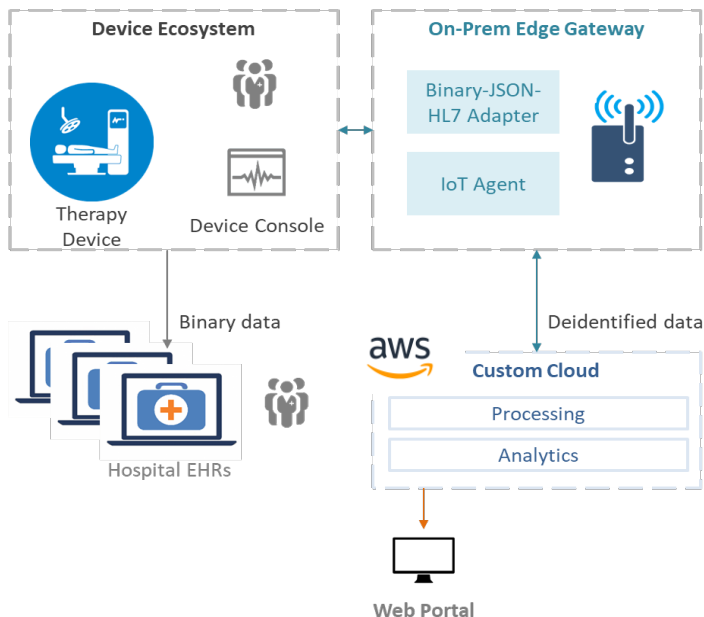Platform availability on cloud

6+
KPI Screens

CitiusTech Solution

- Embedded development and testing on device SoC to convert binary data to HL7 and push to AWS cloud

- Development of an on-prem Edge gateway for bi-directional data transfer from Device to Cloud

- Development of device portal for insights with following features:

  - Patient clinical statistics: Effluent dose, FF etc.

  - Facility admin statistics: Downtime, utilization etc.

  - Remote configuration of devices

- Overall development enables the device to communication to other on-prem HIT devices and seamless update data from remote locations

Technologies Used

- Python, JavaScript, jQuery, C++ for portal and SoC

- Amazon S3, lambda functions, Redshift, Postgres, Redshift, IAM

CitiusTech

Solution Schematic

Device Ecosystem

Therapy Device

Device Console

On-Prem Edge Gateway

Binary-JSON-HL7 Adapter

IoT Agent

Binary data

Hospital EHRs

aws

Custom Cloud

Processing

Analytics

Deidentified data

Web Portal

Solution Schematic

Value Delivered

By partnering with CitiusTech the client was able to –

- Enable siloed devices to become interconnected ecosystem

- Reduce binary interface dependency through standard HL7 format

- Scale up analytics operations through seamless device data access

- Enable remote monitoring and configuration for their devices

- Analyze device operations & mitigate workflow gaps

- Open to future use-cases for AI-based population health and predictive device maintenance

About CitiusTech

CitiusTech (www.citiustech.com) is a leading provider of healthcare technology services, solutions and platforms to over 130 organizations across the payer, provider, medical technology and life sciences markets. With over 5,000 technology professionals worldwide, CitiusTech powers healthcare digital transformation through next-generation technologies, solutions and accelerators. Key focus areas include healthcare interoperability & data management, quality & performance analytics, value-based care, omni-channel member experience, connected health, virtual care coordination & delivery, personalized medicine and population health management. CitiusTech has two subsidiaries, FluidEdge Consulting (www.fluidedgeconsulting.com) and SDLC Partners (www.sdlcpartners.com), with deep expertise in healthcare consulting and payer technologies, respectively. CitiusTech's cutting-edge technology expertise, deep healthcare domain expertise and a strong focus on digital transformation enables healthcare organizations to reinvent themselves to deliver better outcomes, accelerate growth, drive efficiencies, and ultimately make a meaningful impact to patients..

Princeton | Rochester | Dallas | Boston | Philadelphia | Pittsburgh | Clarksville | Ontario | Mumbai | Airoli | Pune | Bengaluru | Chennai Hyderabad | Pune | Bengaluru | Chennai | Hyderabad | Gurgaon | London | Dubai | Singapore

CitiusTech