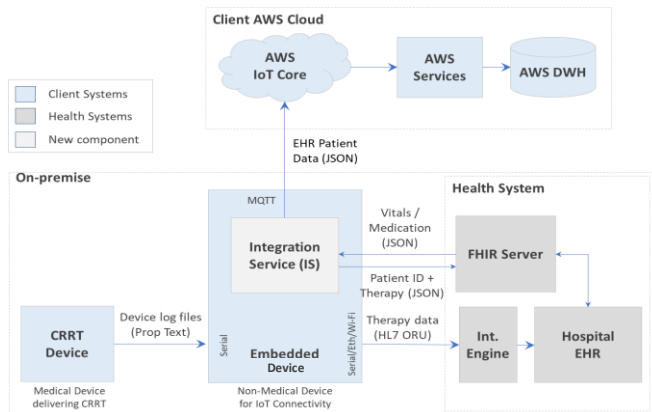# Case Study: CRRT Device FHIR Integration with EHR

Client Requirements

The client is a leading medical device company that primarily focuses on renal and hospital care products. Their devices deliver continuous renal replacement therapy (CRRT) for treating patients with Acute Kidney Injury.

Their devices did not support reading patient vitals or sharing medication and other data from EHRs. The client needed bi-directional integration between its CRRT devices and the hospital EHRs to drive clinical decision support for therapy improvements.

CitiusTech was selected to enable interoperability with EHRs using the FHIR format because of our expertise in interoperability and medical devices.

Solution Schematic

CitiusTech Services:

CitiusTech utilized offshore resources to design and develop an integration service with the CRRT device, enabling FHIR interoperability with EHRs.

- Establish secure FHIR R4 API connectivity between device and EHR

- Leverage patient context available in the embedded module of the CRRT device to query the EHR

- Read patient data from hospital EHR, including vitals, medication and dosage, diagnostic reports, allergy intolerance, etc.

- Write patient therapy data back to EHR, when supported

- Provide configurable intervals for fetching and displaying patient data on web-based GUI, ranging from near-time for some parameters to several minutes or hours for other parameters

- Send patient data to AWS platform to enable analytics for therapy improvements

Value Delivered:

- Provided **roadmap for scaling the solution across new EHRs and additional FHIR resources** to support future use cases

- Parallel operation to current workflows **enabled advanced analytics without additional development** from hospitals

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