Telehealth Cerner Integration

Overview:

Video conferencing solutions, combined with collaboration and communication features, have collectively played their part in making Telehealth high effective. The other important aspects on which its success hinges on are the security of data, its availability real time and its interoperability. Recently, Mindfire solutions had the opportunity to develop a custom secure online meeting platform that uses AWS services and integrates with Cerner EHR.

Client details:

Name: Confidential | **Type:** Healthcare | **Location:** USA

Technology:

Python, Django, React, PWA, AWS, FHIR, DSTU2, R4, REST, GIT, Ubuntu LTS.

Project Description:

The platform has a web portal which allows patients to sign-up and schedule appointments with their preferred care provider for online visits. For any given appointment, the patient demographic data is pushed into Cerner, and the appointment information is sent via email to both the patient and the care provider with a link for an online meeting.

The patient and the care provider can then connect for a video meeting session which uses Jitsi running on AWS. The application also implements an administrative portal to manage the doctors and their availability.

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AWS Services used:

EC2:

- Hosts the web application which allows patients to search for care providers and schedule appointments.
- Hosts the meeting platform which allows the patient and care provider to meet.
- Runs worker processes to sync data using SQS to Cerner.

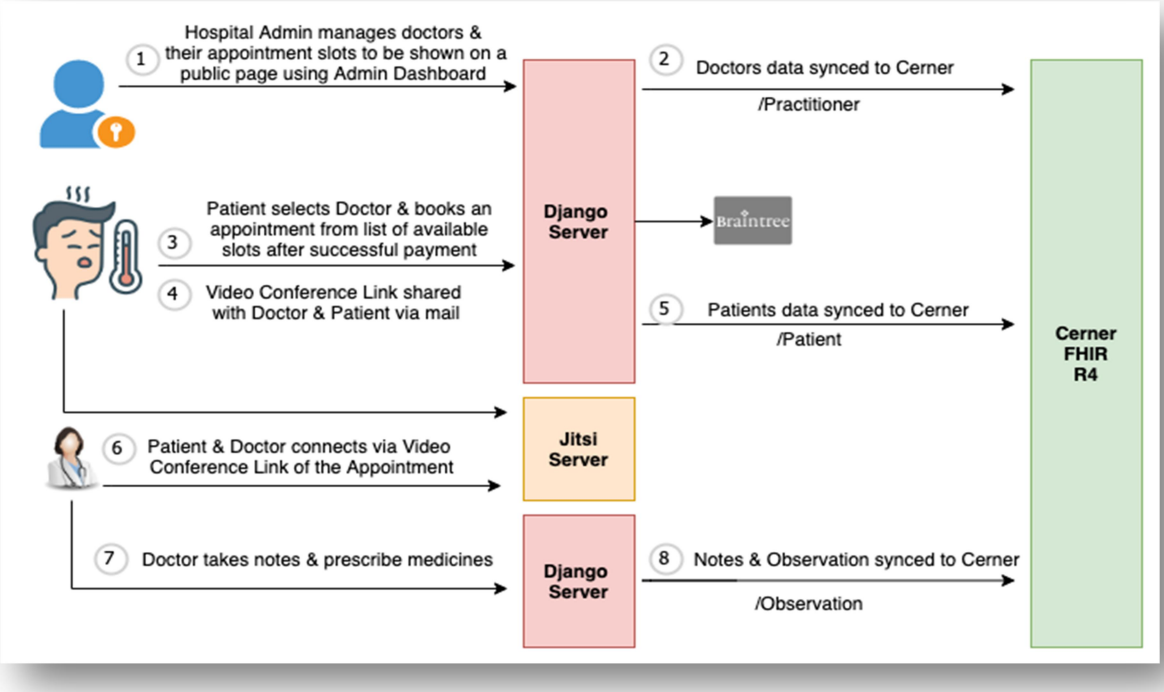
RDS:

- Hosts the data for the portal

SQS:

- Is used as a message broker between the web platform and Cerner

Workflow:



(Patient Portal Workflow)

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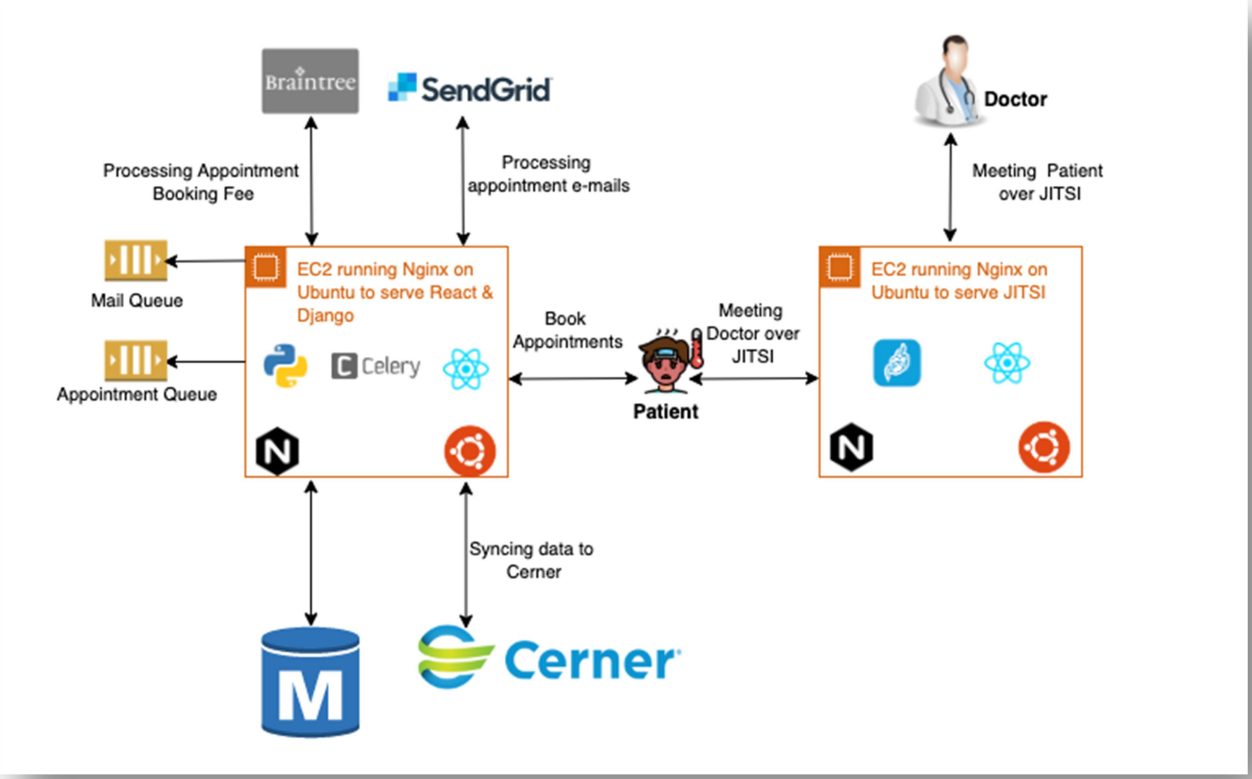
Architecture:



(Architecture diagram shows use of AWS services for the solution.)

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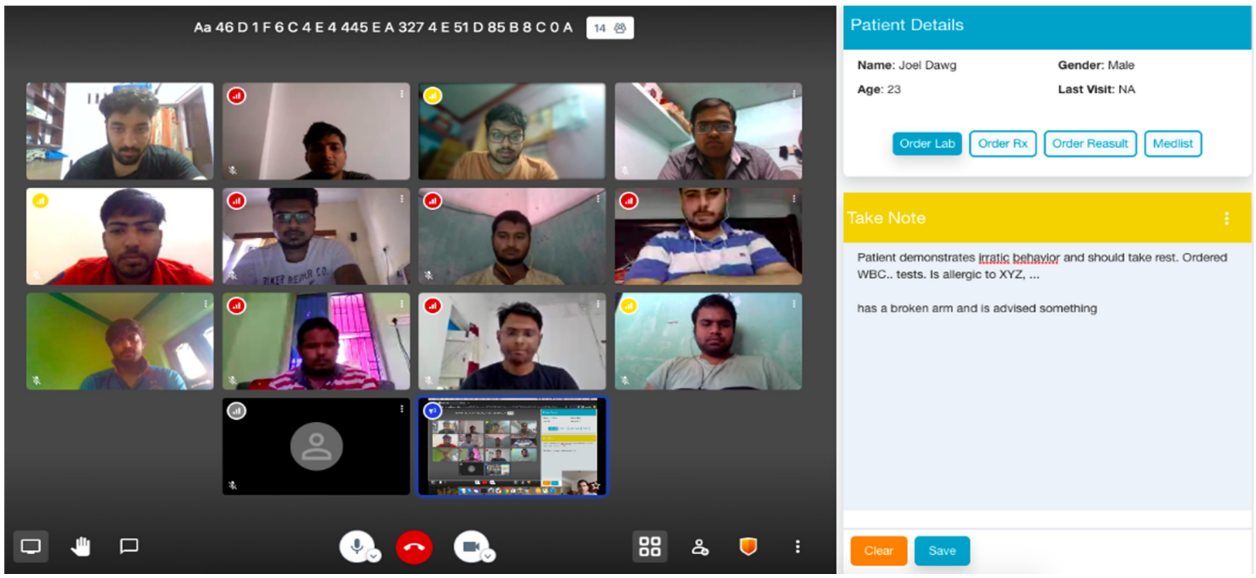
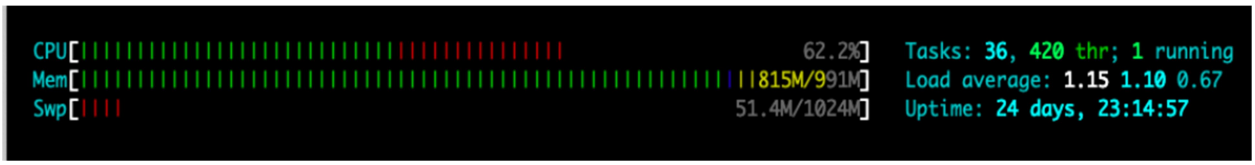
Screenshots:



(Shows - live meeting with 14 participants and screen share.)



(Shows resource usage on the meeting server with 14 participants and screen share in progress: 1 GB RAM, 1 GB Swap, 1 vCPU (3.3 GHz)