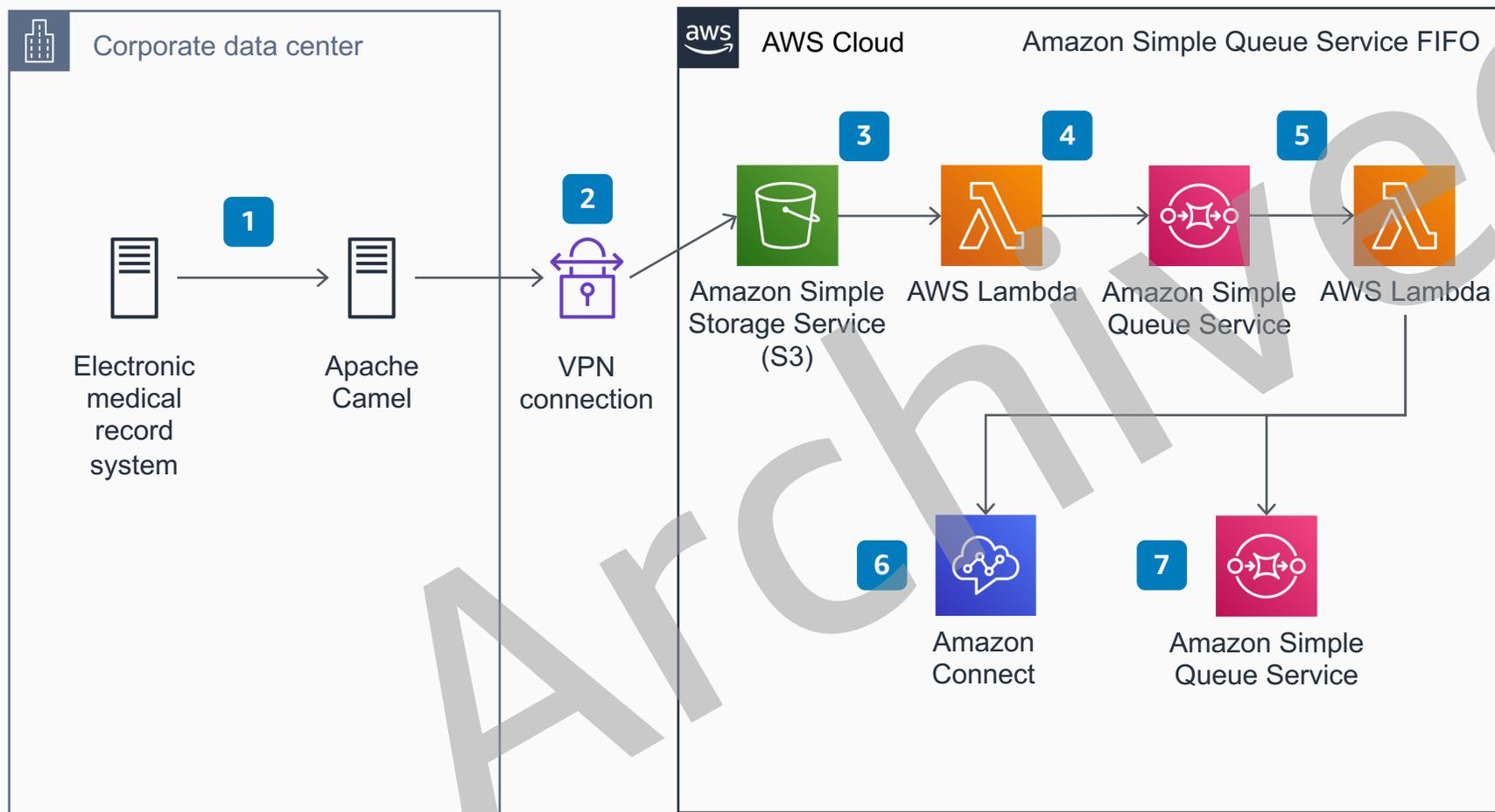


# Reducing Hospital Readmissions

Leveraging AWS to intervene on high risk patients for hospital readmission.



- 1 Electronic medical record system sends out an HL7 message (including patient phone number) when one of the following use cases occur (patient starts discharge, 24 hours after discharge is completed, follow-up visit requirements are completed, 8:00 AM on the day after discharge is completed).
- 2 Apache Camel receives HL7 message and writes to Amazon S3 over VPN connection to AWS. Verify the HL7 message has the patient phone number.
- 3 S3 put event triggers Lambda function.
- 4 Lambda function queues the HL7 message link to the S3 object.
- 5 Lambda function reads and processes the next message in the queue.
- 6 Lambda function checks the time and, if within allowed calling window, parses the message using the HL7 message link to the S3 object, retrieves missing patient data (including patient phone number), and places call using specified call flow.
- 7 Failed calls queue in a separate dead message queue for retry or manual remediation.

\*Notes:  
Additional considerations include data security, access control, and compliance should be added into the architecture on a per implementation basis.

This architecture uses restrictions from [Architecting for HIPAA Security and Compliance on AWS](#) to ensure workload is HIPAA eligible. This reference architecture uses AWS services that are HIPAA eligible.