Establishing Healthcare Interoperability Through Service Enablement of Legacy System

HEALTHY EXCHANGE AND MEDI-CAL INTERFACE (HEMI) PROJECT
Department of Healthcare Services (DHCS), California

INDUSTRY - Government - Healthcare

STATE - CALIFORNIA

SUMMARY

California Department of Health Care Service (DHCS) adopts Enterprise Architecture practice to manage the enterprise changes via strategic transformation through the development of optimal business capabilities over time, which gives the enterprise its strategic edge.

CHALLENGES

As part of ACA 2010 implementation for the State of California, the real-time Eligibility Determination business process required the 30 years old legacy MEDS to support various business functions such as Application Tracking, Member Identification/ Management, Eligibility Inquiry and Program Enrollment etc. in real-time. MEDS legacy components were service enabled to deliver real-time business functions to support real-time eligibility determination.

SOLUTION

The real-time business functions supported the goals for real-time Eligibility Determination and Program Enrollment for MAGI MEDI-CAL, APTC/CSR programs as envisioned by ACA 2010 and improved MITA maturity level for the Eligibility and Enrollment Business Area.

THE PROBLEM

The legacy mainframe system can't support real-time eligibility determination for ACA 2010 Implementation.

As part of the Affordable Care Act of 2010 implementation, California established its own health benefit exchange. California Department of Health Care Services (DHCS) and Covered California established California Healthcare Eligibility, Enrollment, and Retention System (CalHEERS) that is currently supporting over 1.4M active members.

California's Medi-Cal Eligibility and Enrollment ecosystem includes three Statewide Automated Welfare System (SAWS), CalHEERS and the Medi-Cal Eligibility Data System (MEDS). MEDS is a 30 years old mainframe system that serves as an integration point for all the four siloed eligibility systems integrating the eligibility data for Medi-Cal programs with $92 billion of yearly Medicaid budget. MEDS also hosts unique Member Identification number, called Client Index Number (CIN) for 58M beneficiaries across the health and human services programs. MEDS supports Member Identification and Eligibility Inquiry functions for eligibility determination and claims processing.

At the time of ACA implementation, MEDS was delivering all it's business functions through batch interfaces and 3270 green screens. California's implementation of real-time eligibility determination and program enrollment required MEDS to support various business functions such as Application Tracking, Member Identification/Management, Eligibility Inquiry and Program Enrollment etc. to be delivered in real-time.

Health Exchange & Medi-Cal Interface (HEMI) Project at DHCS is a sub-project of California's Health Benefit Exchange, CalHEERS. Through this project, DHCS supported modernization of Medi-Cal Eligibility Data System's (MEDS) legacy interfaces as interoperable, real-time web service interfaces and integration of those interfaces to various health eligibility and enrollment systems such as California Health Eligibility, Enrollment and Retention System (CalHEERS), Sate Automated Welfare Systems (SAWS) – C-IV, CalWIN, LEADRS, and various state agencies – EDD, FTB with a goal to enable real-time eligibility determination and enrollment for MAGI Medi-Cal, APTC/CSR health programs as envisioned by ACA 2010.

Real-time Identification of Members from 58M Health and Human Services Members

Eligibility Inquiry Transaction volume…TBD

SERVICES PROVIDED

xFusion provided technical architecture, strategy and legacy modernization services for the HEMI project to perform the following key activities:

Business Process Analysis and Modeling

xFusion team performed business process analysis spanning across various state and federal integration partners, modeled, and developed as-is and to-be Business Process Model (BPM); identified of top-down business and technical requirements for the changes in the legacy MEDS system and real-time business services from the to-be Eligibility and Enrollment (E&E) Business Process Model; used Sparx Enterprise Architect for Business Process Modeling using BPMN.

Interface Analysis and Design

xFusion team performed interface analysis with statewide integration partners such as, CALHEERS, DHCS, CMIPS-II, CAMMIS, SAWS, EDD and FTB; identified gaps, interoperability, reusability, security and connectivity challenges; defined interface specifications for real-time Application Tracking, Member Identification/Management, Eligibility Inquiry and Program Enrollment services; performed Risk Based Security and Privacy (S&P) analysis, classification of sensitivity of information being exchanged, defined service security requirements based on the information security classification (PII, PHI, FTI) using FIPS and NIST security control guidelines.

Integration architecture between CalHEERS and MEDS

xFusion designed and implemented integration architecture between CalHEERS and MEDS using CalHEERS Enterprise Service Bus (ESB).

Design and Implement Algorithm for Real-time Member Identification

xFusion designed and implemented real-time member Identification algorithm using

probabilistic matching approach to uniquely identify a Member from a registry of 58M Members.

Web Enablement of Legacy MEDS System

xFusion defined strategy, scope, requirements, service and integration architecture for web enablement of legacy meds interfaces to support the real-time eligibility determination and enrollment for MAGI MEDI-CAL, APTC/CSR programs as envisioned by ACA 2010; performed implementation and testing of the web services implemented on top of legacy MEDS mainframe components.

Tools, Standards and Best Practices Used

Medicaid Information Technology Architecture (MITA 3.0), CMS Seven Standards and Conditions, NIEM, BPMN, BPEL, UML, SOA, Web Sphere Application Server, Web Services, WSDL, SOAP, CICS Transaction Server, DB2, HL7, NIEM, HIPAA, FISMA, NIST, HITECH, Business Rules Management System (BRMS), XML, MS Project, UML, Enterprise Architect, Business Process Analysis and Design, Service Oriented Analysis and Design, Service Oriented Software Development Life Cycle.

OUTCOME

California Department of Health Care Service (DHCS) could successfully implement the business and technical changes driven by the policy and compliance requirements of Affordable Care Act, 2010 in the Medi-Cal Eligibility Data System (MEDS), implemented real-time business services through web enablement of legacy MEDS components to support the Eligibility and Enrollment business process needs. The changes in the MEDS system and it's support for the real-time business services were very critical for the successful implementation of California's Health Benefit Exchange, CalHEERS.

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