

# U.S. Government Facilitates Enrollment Upon Passage of Affordable Care Act Under Tight Deadline with MarkLogic

CASE STUDY



**INDUSTRY**  
Public Sector

**PRODUCT**  
Progress® MarkLogic®

**COUNTRY**  
United States

**SUMMARY**  
Following the passage of the Affordable Care Act (ACA), the U.S. Department of Health and Human Services (HHS) Centers for Medicare and Medicaid Services (CMS) needed to design, build and implement a technology platform capable of enrolling millions of Americans in new healthcare plans made available by the act. CMS selected the MarkLogic data platform to ingest this avalanche of data and meet its 18-month deadline.

## Challenge

Following the passage of the Affordable Care Act, the U.S. Department of Health and Human Services (HHS) Centers for Medicare and Medicaid Services (CMS) needed to design, build and implement a technology platform capable of enrolling millions of Americans in new healthcare plans made available by the act—and the project needed to be completed in an 18-month timeframe.

CMS first attempted to achieve this with a relational database, but soon ran into the limitations of that technology, including complex structural issues, high levels of maintenance, a relatively inflexible structure and most importantly, scalability issues that make relational database technology unsuitable to handle large quantities of unstructured data.

CMS soon realized it needed a unified data platform that could handle complex data challenges to implement the enrollment challenges presented by the ACA.

## Solution

After a comprehensive due diligence search, CMS chose the Progress® MarkLogic® data platform for its scalability and easy integration of new data sources.

MarkLogic ingests data as is and adapts to modifications as new data sources are added and as policies or regulations change. With MarkLogic, CMS did not have to sacrifice any features expected from a traditional database, such as government-grade security, ACID transactions and HA/DR. Additionally, CMS could also take advantage of a NoSQL document model that handles heterogeneous and unstructured data, and scales easily — which is essential, particularly during open enrollment when transaction numbers spike.

## Results

HealthCare.gov has been running on MarkLogic for years as the largest personal data integration project in the government's history. Additionally, CMS was able to easily migrate the solution to the AWS cloud to support its cloud-first strategy to provide the agility and scalability to meet

**“Add in an ever-changing and volatile policy-driven environment into an IT infrastructure challenge, and you know you need something powerful yet agile to meet changing requirements. With the MarkLogic database, we were able to accomplish CMS goals in just months.”**

**Henry Chao,**  
Former Deputy CIO,  
CMS Healthcare.gov

future needs. In fact, during the latest open enrollment period from November 2023 to January 2024, the system handled transactions for more than 21 million consumers.

Some of the benefits MarkLogic provides to CMS include:

### **Faster Time-to-Production and Support of Heavy Site Traffic**

CMS launched HealthCare.gov within the 18-month deadline. In under five months post-launch, MarkLogic supported 5,500+ transactions per second to help over eight million people sign up for health insurance.

### **Nearly Limitless Scalability and Record-Breaking Performance**

MarkLogic has supported 160,000 concurrent users and delivered over 99.99% availability. Over 99.99% of queries have logged response times of less than 0.1 seconds, without any data loss or inconsistency.

### **Seamless Online Shopping Experience for HealthCare.gov**

CMS can now integrate data as is, so there was no need to recode data from multiple states, government agencies and health plan providers. This made it easy to provide competitive healthcare options to site users.

## **About**

First passed in 2010, today the Affordable Care Act serves more than 21 million consumers. It is administered by the U.S. Department of Health and Human Services Center for Medicare and Medicaid Services.








**Contact us** If you need to solve complex data challenges and unlock value, look no further than MarkLogic.

## **About Progress**

Progress (Nasdaq: PRGS) empowers organizations to achieve transformational success in the face of disruptive change. Our software enables our customers to develop, deploy and manage responsible, AI-powered applications and experiences with agility and ease. Customers get a trusted provider in Progress, with the products, expertise and vision they need to succeed. Over 4 million developers and technologists at hundreds of thousands of enterprises depend on Progress. Learn more at [www.progress.com](http://www.progress.com)

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