NCOA Improves Performance with AEM Commercial on AWS

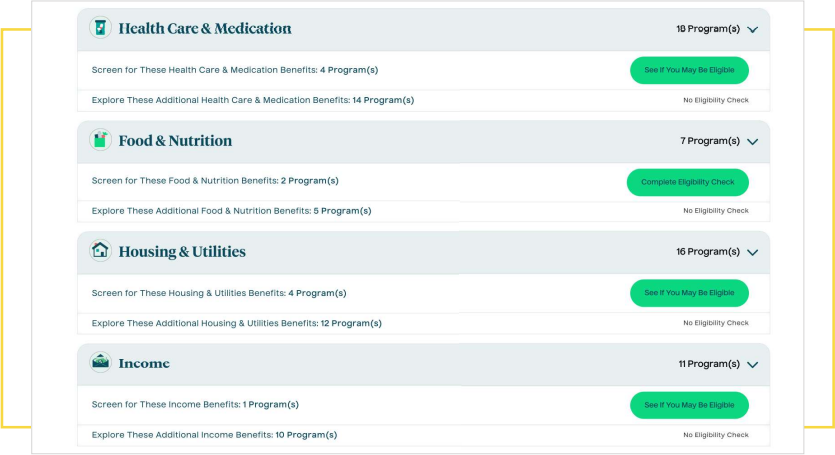
EXECUTIVE SUMMARY

The National Council on Aging (NCOA) works to improve the health and economic security of millions of older adults. NCOA's flagship tool is BenefitsCheckUp® , which helps older adults access federal, state, and local benefits assistance programs that help pay for daily essentials like food, medicine, and utilities.

BenefitsCheckUp has information in English and Spanish on nearly 2,000 programs and resources, and users can anonymously check to see if they may be eligible for key programs before applying.

Until recently, BenefitsCheckUp was built on an older technology stack, which resulted in fragile code with limited extensibility. To extend BenefitsCheckUp's impact, NCOA onboarded AEM Corporation, an Amazon Web Services (AWS) partner, to conduct an architectural evaluation, develop a technical roadmap, and support strategic modernization initiatives.

As a result, the organization experienced a substantial improvement in performance and security as well as more agility and flexibility for the NCOA team.



About NCOA

The National Council on Aging (NCOA) is working to impact the health and economic security of 40 million older adults by 2030—especially women, people of color, LGBTQ+, low-income, and rural individuals.

AWS Services

NCOA now uses 18 AWS services across the following products:

- Analytics
- Application Integration
- Compute
- Databases
- Developer Tools
- Front-End Web & Mobile
- Management & Governance
- Networking & Content Delivery
- Security, Identity, and Compliance
- Storage

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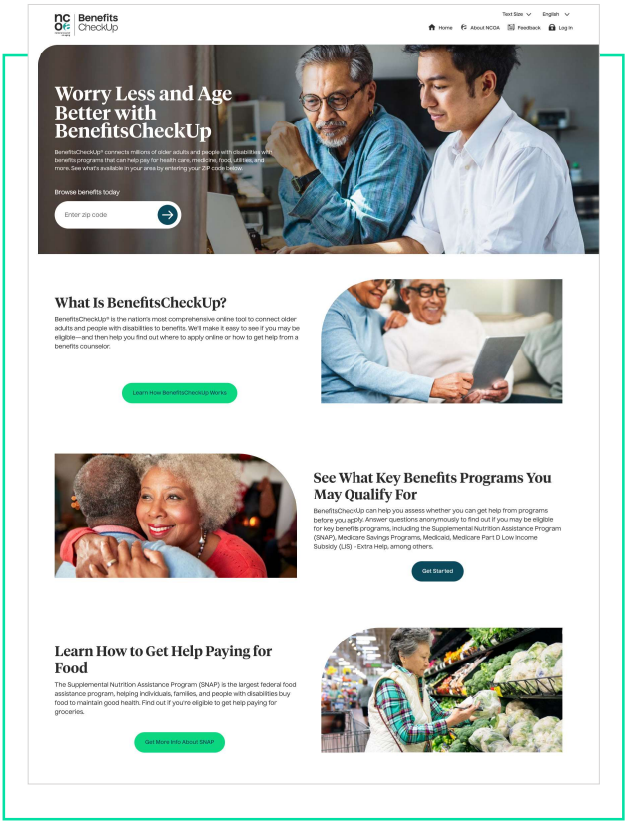
Legacy System Needs Modernization

After growing organically over more than a decade, NCOA's technical infrastructure for BenefitsCheckUp had complex management, siloed data, and limited capabilities.

From a business perspective, the NCOA team did not have full visibility into their data model. Deployment of any content changes required developer/IT support, and small updates could break the site for front-end users. There was also no utility to test changes to the eligibility rules, so NCOA had to manually test the eligibility rules and screenings.

From a technical perspective, the homegrown rules engine allowed for free-form rule definition without supporting syntax or logic checks, so the program rules were fragile. The reporting tool/data warehouse was a custom application with limited extensibility. The technology stack was also outdated, so maintaining it and the associated plugins was a challenge.



We function as a single team in a lot of ways. For example, NCOA is responsible for drafting requirements and acceptance criteria and leads refinement meetings; AEM identifies gaps and offers solutions to ensure tickets are properly groomed for an upcoming sprint. Being mindful of ROI and quality delivery have always been a team effort with AEM.

NICOLE KNOWLES
Senior Director of Product Management, NCOA

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Architectural Assessment and Roadmap

AEM's AWS-certified architects worked with NCOA to design and recommend a reference architecture that would be used as the foundation for BenefitsCheckUp and other NCOA platforms.

They also designed and developed an IT modernization roadmap that met NCOA's business goals and operational goals.

Recommendations included:

- The implementation of a Platform-as-a-Service (PaaS) design
- The adoption of new modern software development tools that provided alternatives for deploying and managing existing servers
- A DevSecOps approach for an integrated software development process

Cloud-First Strategy Leverages AWS Services

NCOA asked AEM to build out the new system based on the modernization recommendations. AEM introduced a cloud-first strategy that included a serverless design using AWS Lambda, AWS API Gateway, and DynamoDB for persistent information.

This architecture enabled the rapid development of an enterprise-class API for all NCOA business services. The approach also allowed NCOA to run code without provisioning or managing servers, and provided for continuous and autonomous scaling with sub-second metering.

As part of the solution, AEM established an automated CI/CD capability using AWS CodePipeline, AWS CodeBuild, AWS CodeCommit, and AWS CodeDeploy. AEM also implemented an AWS IAM offering that provides more granular permissions to NCOA technical staff for each part of the architecture.

We oriented our delivery team to get NCOA whatever they needed. Our mantra was flexibility, as a project of this nature always requires last-minute changes and requests. We were able to deliver more functionality than originally planned.

NICHOLE BUI

VICE PRESIDENT OF OPERATIONS
AEM Corporation

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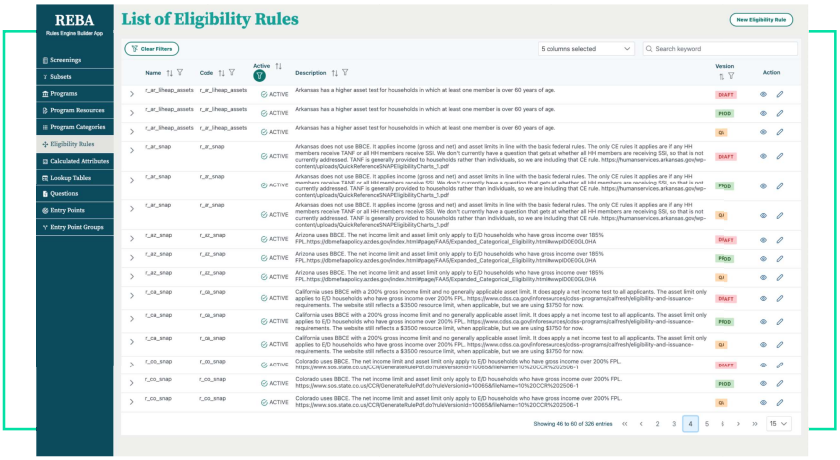
Enhancing the Performance of BenefitsCheckUp

Complementing these changes, AEM built REBA (Rules Engine Builder App), leveraging an open-source NodeJS compatible rules engine to replace the legacy Data Collector tool.

This data tool allows the NCOA content team to manage eligibility rules, questions, screenings, and benefits program relationships. In parallel, AEM also built a new consumer-facing web application with a new Angular UI and REST API-based microservices hosted in AWS for users to browse benefits and assess their eligibility.

To maximize the impact on NCOA's mission, AEM integrated application and user data with Amazon QuickSight so NCOA could gain insights on their end users beyond what's available via Google Analytics. Application reach and feedback metric insights are also now available for NCOA staff to refine screenings, questions, and program details to enhance their effectiveness.



Roadmap for the Future

NCOA notes that the AWS-based solution offers a rich set of available Amazon services that supports the future growth of NCOA's digital tools.

While additional services are on NCOA's roadmap, they are looking next at deploying Amazon Translate for their Spanish-language offering, which will introduce a scalable platform solution to add at least one new language in the next year.

About AEM

AEM Corporation partners with mission-driven organizations to enhance their skills, technologies, and processes. We offer modern capabilities in areas such as application development, data science, and human-centered design.

Whether you are evaluating a technology, have an idea that you want to implement, or are in the middle of an implementation and need to accelerate your delivery, AEM has the expertise and experience to guide you. Learn more at www.aemcorp.com/nonprofits.

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