



The Client

The Maryland Department of Labor (MDOL) provides a predictable and inclusive regulatory environment through efficient and responsive processes. The department of labor safeguards Maryland's work environments through outreach and educational programs by establishing partnerships and encouraging ongoing improvements in workplace safety and health. They foster economic growth through collaborative, comprehensive employment, and job training programs that best ensure Maryland workers have the skills Maryland employers need to succeed and grow into the future.

Perfect Storm

The COVID-19 pandemic created an unemployment spike, unlike any other in the program's history, and citizens needed State Workforce Agencies to respond immediately with benefits. The Maryland DOL faced the same challenges as other State Workforce Agencies (SWAs). However, MDOL was already undergoing a modernization of their Unemployment Insurance (UI) system, so they had two choices. 1) Wait for the modernization of their existing UI system to get completed. 2) Make changes in the legacy system to administer the new federal pandemic programs. Some additional challenges included the following:

High Visibility and Scrutiny

The pandemic created such chaos and turmoil that all SWAs worked under a microscope. Even a minor issue created a media frenzy, legislative hearings, and protests. It was no different at MDOL.

Ambiguity around Volume and Scaling Requirements

It was unclear how many people would be applying for unemployment benefits, for which programs they would apply to, and for how long claimants would require benefits. The volumes were uncertain, and MDOL faced challenges like slow performance and overworked call centers.

Rapid Fire Change

Throughout the pandemic, rules, policies, regulations, and legislation were fluid and evolving. MDOL and other SWAs were, and continue to be, forced to interpret and implement federal and state changes constantly.

Solution

Sagitec started work with Maryland DOL on a comprehensive UI tax, benefits, and appeals solution in October 2015. At the time, the systems' deployment date was for May 2020, without prior knowledge of the onset of the COVID-19 pandemic.

Given the pandemic's unique challenges, deploying a new system with unprecedented claims volume increases the risk substantially. Enterprise deployments always require a careful choreography of the SWA's technical deployments and its partners, organizational change management, and training, among others. Choosing to wait a few months and deploying after the pandemic's initial surge would also be problematic. It would require transitioning claimants already filing weekly from one system to the another.

MDOL, in consultation with Sagitec, chose a hybrid deployment approach. Sagitec would deploy a modernized customer-facing claims intake system for all UI claims (UI, EB, PECU, PUA). This would ensure that the claimant's experience was uniform throughout the life of the claim. The solution would scale to the volume of claims as needed using the Microsoft Azure Government Cloud. After the initial surge, the functionality of the remaining UI benefits and tax and appeals would be released so that MDOL could take advantage of the efficiencies provided by a superior modern solution and improved business processes.

Using this strategy, Sagitec deployed BEACON One-Stop for MDOL, a comprehensive UI claimant portal in April 2020. It enabled unemployed workers to apply for all available benefits in one application regardless of whether they may qualify for UI, PEUC, or PUA.

While Sagitec expected a massive claims volume, the newly deployed system experienced performance issues in the first four days of operations. While the team was trying to determine the root cause, Sagitec deployed a virtual queue feature to balance the volume.

The team determined the root cause of the problem:

1. With thousands of claimants trying to access the system at the same time, specific queries required optimization to improve system performance. Following hyper-optimization of certain system areas, the solution was auto-scaling to the load required to handle pandemic claims volume within one week.
2. The database server was not responding well when users executed cross-database queries. Per Microsoft's recommendation, the affected functionality was refactored to resolve the issue.

Sagitec's cloud based Neosurance™ is the solution deployed for MDOL. Neosurance is a fully integrated, browser-based application providing comprehensive functionality for UI tax, benefits, and appeals administration. Neosurance is built atop Sagitec's platform Xelence – a visual development environment for creating enterprise solutions to manage complicated business rules, ever-evolving requirements, and high-touch organizations.

By developing solutions built on Sagitec's platform, MDOL and other SWAs can make pandemic benefit programs possible and get much-needed money into the hands of struggling citizens in five ways:

- Enabling application developers to develop and deliver highly sophisticated solutions with an average of a 3-week development cycle.
- Utilizing Application Performance Management (APM) capabilities to identify and resolve issues quickly.
- Overcoming “ambiguity around volume and scaling requirements” by scaling up to meet peak loads and scaling down during normal loads using a cloud-based solution.
- Empowering application developers to pivot and change with evolving regulations by using Xelence's flexible Business Rules Engine.
- Going mobile: Neosurance, powered by Xelence, is designed using a mobile responsive design out of the box and includes a mobile application to serve claimants. In Maryland, 48% of claimants are using this mobile responsive design while submitting their claims.

Fraud Prevention

With advances in predictive analytics, machine learning, and data modeling, technology solutions can sift through historical claims data on previous fraud cases and produce a trained fraud model that can accurately predict the likelihood that claimants will commit fraud. These models can be applied to UI claim data to identify fraud before it occurs or very early in the process. Follow-ups and investigations can then happen to help reduce or eliminate fraudulent claims/payments.

Sagitec performed an in-depth analysis of Maryland's claim activity and quickly determined that a massive fraud scheme attempted to defraud Maryland by utilizing automated bots and humans to file fraudulent claims. Sagitec consulted with MDOL and immediately froze most out-of-state accounts. Sagitec worked with MDOL and their banking vendor to block payments before they were made, and where payments had been made, block the use of those debit cards to more than 47,500 bogus claims saving Maryland and the Federal Department of Labor more than \$501 million.

[Read more about Sagitec's Neofraud™ solution.](#)



Results Achieved Through the Implementation of Neosurance*

- BEACON processed 100% of initial claims and 94% of continued claims online in the claimant self-service portal for all programs, including all pandemic programs, for the State of Maryland.
- MDOL has been able to process and close 19 million weekly claim certifications to date.
- Initial claims processing: Achieved a 96% self-service adoption rate using the claimant self-service portal for all programs, including the pandemic programs. This significantly reduced manual, paper-based processing of initial claims.
- Continued claims processing: Achieved a 97% self-service adoption rate using claimant self-service portal for all programs, including the pandemic programs. This significantly reduced manual, paper-based processing of continued claims.
- Over 50% of claimants access UI benefits and appeals services using mobile phones and tablet devices to manage their accounts and file weekly certifications in Maryland independently.
- Employer wage processing: Achieved a 99% self-service adoption rate using the employer self-service portal. Since implementation, we have reduced manual, paper-based wage processing by over 90%.
- Employer tax payments processing: Since implementation, we have processed 83% of UI tax payments electronically. As a result, we have significantly reduced manual, paper check processing.
- Employer account maintenance: We achieved a 99% self-service adoption rate using the employer self-service portals. Employers use the portal to update addresses, employer reporting units, contact information, and communication preferences, significantly reducing manual, paper-based processes.
- 47,500 bogus claims were detected saving Maryland and the Federal Department of Labor more than \$501 million.

*Statistics are from June of 2020.

Lessons Learned

- The issue: Facing an unprecedented volume of users after launch, Sagitec quickly adapted, worked with Maryland as a team to find solutions, and created new ways for MDOL to serve claimants.
- Short term technical mitigation: Virtual queue.
- Short term customer service mitigation: Team effort of client and Sagitec responding to customer complaints.
- Root cause identification: Additional database optimization for specific queries.
- Solution: The team hyper-optimized database queries for an extreme load. In the future, performance testing will include risk mitigations plans for the most extreme scenarios.
- Teamwork: BEACON One Stop had performance issues, as did most other systems and SWAs. The cohesive response of the entire team – MDOL and Sagitec, led to resolving performance issues in a matter of days rather than weeks or months.



About Sagitec

Sagitec is a global software provider focused on solving complex, business-rule-driven problems with domain experts and proven technology. They serve numerous Labor and Employment agencies in the United States. The fully integrated, web-based Labor and Employment solution Neosurance™ is powered by Sagitec's marketing leading platform, Xelence. Neosurance for Unemployment Insurance, Paid Family Medical Leave, and Disability Insurance meets most agency requirements straight out-of-the-box, while also being extremely flexible to accommodate unique business rules and requirements. In addition to serving the Labor and Employment industry, Sagitec designs and delivers software solutions for the Pension market and Healthcare industries. With deep industry experience in software implementation and systems integration, project management, consulting, hosting, and software support, Sagitec is a partner clients can trust to drive their vision into action. For more information, visit: www.sagitec.com



422 County Road D East
Saint Paul, MN 55117

612-284-7130 | info@sagitec.com
www.sagitec.com

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