



| CASE STUDY

Deploying a Scalable Omnichannel Contact Center as a Service for a State Unemployment Insurance Agency

SMX Leverages Amazon Connect to Transform a State Agency's Legacy Call Center into a Resilient, AI-Powered Platform



INTRODUCTION

In early 2020, COVID-19 left millions of workers unemployed almost overnight, and state unemployment systems were not built for what followed. Online filing portals crashed, call centers were overwhelmed, and claimants struggled to reach an agent.

One Northeastern state was one of the hardest hit states. According to the U.S. Bureau of Labor Statistics, its unemployment rate went from under 3% in February 2020 to the high teens by that summer, with hundreds of thousands of workers needing benefits. The state's unemployment insurance agency, part of its executive office of labor and workforce development, is responsible for guiding constituents through the Unemployment Insurance (UI) process, including filing claims, verifying eligibility, and delivering benefits. The agency also supports employers in reporting wages, making contributions, and managing claims. When the crisis hit, the agency was fielding this demand with a legacy Avaya PBX call center that supported fewer than 500 on-site agents, offered limited scalability, and lacked remote access capability.

The federal government's [Pandemic Unemployment Assistance \(PUA\)](#) program added further complexity by expanding eligibility to gig workers, independent contractors, and others not normally covered by state benefits. Fraud attempts also surged, prompting the state to create a dedicated Program Integrity phone line to investigate suspicious activity and protect legitimate claimants.

As the state's trusted technology partner, SMX had already guided their team through a large-scale cloud migration for its unemployment and labor/workforce programs. When the pandemic hit, the agency turned to SMX again. This time, the agency needed a contact center capable of handling 1,000 times its normal call volume while supporting hundreds of authenticated remote agents on both Windows and Mac OS, adapting to evolving programs, and preserving security, auditability, and integrity. In less than two weeks, [SMX and Amazon Web Services \(AWS\)](#) delivered a platform capable of processing nearly 200,000 calls in a single day.

A Legacy Call Center Built for Standard Operation

As COVID-19 deepened, the agency's call volumes climbed from thousands per week to hundreds of thousands at peak. The legacy Avaya PBX and an on-site workforce of fewer than 500 agents could not provide the elasticity or remote access necessary to respond.

The PBX could not scale to support the influx of inbound calls and the hundreds of additional agents needed. Staff had no way to work remotely during a pandemic that required people to stay home. Reporting, monitoring, and compliance tracking fell short of what the crisis demanded, and implementing the rapidly changing requirements for PUA and Program Integrity lines on the legacy platform would have been slow and cumbersome.

Without rapid intervention, the agency risked total system failure and serious threats to program integrity, all while new federal rules and rampant fraud attempts complicated every constituent interaction.

Deploying a Scalable CCaaS in Weeks

SMX addressed the agency's crisis with a two-phased strategy: stabilize operations rapidly with a secure, scalable foundation, then iterate and enhance for the long term.

In collaboration with AWS, SMX deployed a production-ready [Amazon Connect](#) instance within weeks. The platform supported 2,000 to 3,000+ concurrent calls and 350+ authenticated remote agents logging in daily from various locations across the state as well as partnering call centers. SMX integrated [Amazon Chime](#) for agent-supervisor voice and chat collaboration and provided centralized monitoring, logging, and reporting for operational oversight and compliance.

Challenges

- On-premises PBX unable to handle call surge
- Agents required on site during pandemic
- Limited ability to scale for hundreds of additional agents
- Complex on-premises device management and networking

Solutions

- Rapid deployment of Amazon Connect omnichannel contact center
- Secure remote agent access for geographically dispersed agents
- Callback feature for high-demand queues
- Compliance alignment with state and federal standards (SOC, PCI, HIPAA)

Benefits

- Stabilized operations within weeks
- 2,000 to 3,000+ concurrent call capacity
- 350+ remote agents supported with simplified onboarding
- No system crashes during peak demand
- Seamless phone number transition for constituents
- Eliminated on-prem infrastructure burden
- Staff trained and operational on the new platform

Challenges

- Stale reporting on legacy platform
- Legacy interactive voice response (IVR) with limited self-service options
- Manual supervisor processes

Solutions

- Advanced analytics pipeline (Snowflake + Power BI)
- AI-powered multilingual IVR
- Amazon Lex chatbot for voice and chat
- Real-time supervisor dashboards
- SMS outreach via Amazon Pinpoint
- Infrastructure-as-Code (IaC) automation

Benefits

- Near real-time operational insights
- Hundreds of millions of records analyzed
- Multilingual access for diverse constituents
- Reduced live call volumes via self-service
- Real-time queue and capacity control
- Continuous adoption of new AWS features

SMX handled telephony provisioning, number porting, and carrier coordination so claimants could reach the new system through the same phone numbers they had always used. Robust access controls and compliance guardrails aligned with state and federal requirements, including SOC, PCI, and HIPAA standards.

To ease the strain on high-volume queues like Claims Assistance, SMX introduced a callback feature that let callers hold their place in line without staying on hold. The Contact Control Panel and queue management tools enhanced agent productivity and simplified onboarding as the agency rapidly scaled its workforce, while Amazon Connect's fully managed model eliminated the burden of physical infrastructure and complex networking during a crisis.

SMX also delivered admin and supervisor training covering softphone use, call-handling procedures, and capacity tuning for peak demand. With Phase 1 complete, the agency had a secure, scale-ready platform to move into Phase 2.

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Building Long-Term Capabilities with AI and Analytics



ADVANCED REPORTING AND ANALYTICS

SMX built a data pipeline that gave the agency deep operational visibility for the first time. The ETL stack ran on [Amazon Kinesis](#), [AWS Lambda](#), [AWS Glue](#), and [Amazon Aurora PostgreSQL-Compatible Edition](#), with [Snowflake](#) as the primary data warehouse. [Power BI](#) dashboards provided day-after reporting and workforce management insights, while an [Amazon Open Search Service](#) and [Open Search Dashboards](#) cluster gave administrators the ability to investigate individual calls. With hundreds of millions of records flowing through the system, the agency could identify usage patterns like morning peaks, busy Mondays, and seasonal or event-driven spikes, and make staffing decisions based on real data.



IVR MIGRATION AND AI

SMX migrated the agency's legacy IVR lines into Amazon Connect and rearchitected them as highly customized, multi-path automated flows tied to the agency's core databases, enabling many claimants to complete the UI filing process entirely by phone. The new IVR included multilingual capabilities and used AWS AI services, including [Amazon Transcribe](#), [Amazon Translate](#), [Amazon Polly](#), and [Amazon Comprehend](#), for speech recognition, translation, and sentiment analysis, improving access for diverse constituents and helping triage sensitive cases.



CONVERSATIONAL AI WITH AMAZON LEX

To reduce live call volumes and improve access to information, SMX integrated [Amazon Lex](#) for conversational chatbot capabilities across voice and chat channels. Amazon Lex introduced natural language understanding and voice optimization for faster self-service and smoother handoffs to human agents, replacing many legacy prerecorded message files in the process.



SUPERVISOR CONTROLS

SMX built [Amazon CloudFront](#) and [Amazon Cognito](#) dashboard interfaces that gave supervisors real-time control over queues, including the ability to throttle, drain, close lines, and adjust capacity on the fly. Listen and barge-in features supported quality assurance and training.



SMS CAMPAIGNS

Using [Amazon Pinpoint](#), SMX implemented targeted SMS campaigns for time-sensitive claimant notifications, adding another channel for reaching constituents.



PLATFORM CONSOLIDATION

SMX consolidated multiple Amazon Connect instances into a single hardened environment, updating [Active Directory](#) integration and upgrading the Contact Control Panel in the process. Using IaC and Amazon Connect APIs, the team automated deployments to make scaling repeatable and configuration changes faster.



At peak moments,
the system
processed **3,000+**
concurrent calls.

Numerous days
between April
and August 2020
saw more than
100,000
inbound calls.

In November
2020 alone, the
platform processed
approximately
1.2 million
inbound calls.

Every interaction
was tracked, so
no claimant
was lost from
the system's view.

Results and Impact

The platform SMX built for the agency delivered measurable results on two fronts, both for state constituents directly and for the agency's operations.

BENEFITS TO STATE CONSTITUENTS

The people who benefited most were state residents and small business owners who urgently needed UI and PUA support. Within weeks of deployment, SMX delivered a platform capable of handling unprecedented volumes. Numerous days between April and August 2020 saw more than 100,000 inbound calls. In June 2020, the platform handled nearly 200,000 calls in a single day. At peak moments, the system processed 3,000+ concurrent calls. In November 2020 alone, the platform processed approximately 1.2 million inbound calls, with roughly 250,000 callers reaching queues.

Throughout all this, the platform never crashed. While wait times remained a reality during peak demand, the agency stood out nationally for its resilience, even as other states' systems failed under heavy load. Every interaction was tracked, so no claimant was lost from the system's view. Remote agent access also preserved public health by allowing staff to work securely from across the state, avoiding the need for in-person lines during a pandemic. Residents also benefited from a communication line opened specifically to help them get the benefits they needed during a critical time.

BENEFITS TO THE AGENCY

The agency gained both immediate operational resilience and long-term agility. The capacity uplift enabled 1,000 times the call volume of the legacy system, existing phone numbers were ported to ensure continuity, and moving to Amazon Connect removed the need to manage physical PBX hardware, a major reliability advantage during a crisis.

Advanced analytics turned out to be one of the most valuable operational improvements. The agency could now see demand patterns by time of day, day of week, and seasonal or event-driven triggers, and use that data to proactively reallocate staff before surges hit.

Supervisors also gained real-time dashboards, queue controls, and QA features to manage workloads and maintain program integrity. Robust logging, secure storage of recordings, and comprehensive reporting allowed the agency to audit activity and respond to fraud investigations. Because the system was modular by design, SMX could continually add capabilities over time, including IVR automation and AI-driven self-service, multilingual support, advanced analytics, and SMS outreach.

I CONCLUSION

Modernize Your Contact Center with Cloud-Powered Resilience

While many state unemployment systems experienced frequent crashes, outages, and busy signals throughout the pandemic, this state's decision to deploy Amazon Connect kept the agency online and processing millions of calls. SMX delivered the omnichannel contact center within weeks, vastly expanding call capacity, enabling rapid agent onboarding, seamless number porting, and sustained service continuity. From there, SMX continued to build on the platform, adding analytics, AI-driven self-service, multilingual support, and stronger operational controls as the agency's needs evolved.

Beyond solving the immediate crisis, adopting Amazon Connect aligned the agency with a forward-looking CCaaS ecosystem backed by one of the world's leading cloud and AI providers. The platform gives the agency a clear path to capabilities like agentic assistants, real-time sentiment analysis, and automated quality management as those services mature. And because the agency now taps into AWS's ongoing R&D, new features become available continuously, without re-platforming, ensuring constituents continue to interact with a modern, responsive government as their needs evolve.

Whether responding to a crisis or planning a long-term modernization, SMX brings the cloud expertise, AWS partnership, and operational experience to help government agencies build contact centers that scale when it matters most. [Reach out today](#) if you're interested in similar results.



SMX is a leader in next-generation cloud, C5ISR, and advanced engineering and IT solutions. We deliver scalable and secure solutions combined with the mission expertise needed to accelerate outcomes for the Department of Defense, Intelligence Community, Public Sector, Fortune 1000 and other public and private sector clients.