



CTAC Managed Services for a Federal Public-Facing Digital Platform

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Customer Overview:

CTAC's federal client, a civilian agency within a Cabinet-level department, operates an official public-facing website that serves as the authoritative source for mission-critical information, regulatory updates, analyses, and public communications.

The website must remain continuously available, secure, and accessible while complying with a broad set of federal digital and cybersecurity mandates. These include the 21st Century Integrated Digital Experience Act, OMB Memorandum M-23-22, Section 508 accessibility requirements, Agency cybersecurity policies, and National Institute of Standards and Technology (NIST) Risk Management Framework (RMF) standards. The site supports a diverse audience ranging from the general public to industry stakeholders, researchers, and other federal agencies, making reliability and usability critical to the agency's mission.

Customer Challenge:

As the website continued to grow in scale, complexity, and public visibility, the agency required a partner capable of providing **full lifecycle managed services**, not only hosting the platform, but actively operating, securing, modernizing, and improving it on an ongoing basis.

The existing Drupal-based CMS and AWS-hosted infrastructure required continuous attention to maintain high availability, address emerging security threats, and comply with evolving federal digital standards. Manual operational processes limited agility and increased operational risk, particularly around patching, security reviews, and release management. In addition, the agency sought to modernize the website's user experience, improve mobile responsiveness, simplify navigation, and ensure accessibility compliance across all content and features.

The agency needed a single, trusted provider that could assume responsibility for 24x7 cloud operations, security and compliance management, agile development, and Drupal expertise, while ensuring zero disruption to a mission-critical public platform.

Proposed Solution:

CTAC was selected to serve as the agency's full-stack managed services provider, delivering continuous AWS cloud operations, Drupal platform engineering, security and compliance management, and iterative modernization. CTAC's approach focused on combining AWS-native managed services, infrastructure automation, and centralized operational oversight to create a resilient, secure, and adaptable platform.

CTAC operates the website within a modern AWS architecture built for high availability and fault tolerance. The platform is deployed across multiple Availability Zones in the us-east-1 region and is segmented into development and production environments using dedicated Virtual Private Clouds (VPCs). Public traffic is routed through Amazon CloudFront and AWS WAF to provide global performance, DDoS protection, and web

application firewalling. Application Load Balancers distribute traffic across Auto Scaling Groups of EC2 instances running the Drupal application, while Amazon RDS provides a Multi-AZ PostgreSQL backend to ensure database resiliency and automated failover.

This architecture is supported by centralized logging, monitoring, and security services, with CloudWatch, CloudTrail, GuardDuty, and AWS EventBridge providing continuous visibility into system health, security posture, and operational events. Static assets, logs, and backups are stored in Amazon S3 with encryption and lifecycle policies to support data protection and cost optimization. The agency's AWS environments are securely connected via VPC peering to CTAC's Network Operations Center (NOC), enabling centralized monitoring, incident response, and vulnerability management without exposing the platform to unnecessary risk.

CTAC designed and managed the agency's AWS cloud architecture, highlighting the separation of development and production environments, multi-Availability Zone design, integrated security controls, and the secure connectivity to CTAC's NOC that underpins 24x7 managed operations.

Managed Services Delivery:

CTAC provides **24x7x365 managed services** for the website, assuming responsibility for the day-to-day operation, maintenance, and continuous improvement of the platform. This includes proactive monitoring, alerting, and incident response through CTAC's Network Operations Center (NOC), where engineers monitor performance metrics, logs, and security events in real time. High-severity alerts are triaged immediately, with defined escalation paths and documented response procedures to minimize impact and restore service quickly.

The diagram below provides a high-level view of CTAC's shared services architecture and the AWS services that underpin centralized monitoring, security operations, DevSecOps tooling, and secure connectivity across customer environments.

Operating system and application patching are performed using an automated, immutable infrastructure approach. EC2 Image Builder and CI/CD pipelines are used to produce hardened Amazon Machine Images that incorporate security updates and configuration changes. These images are deployed through controlled, zero-downtime release processes, ensuring the website remains available while maintaining a strong security posture.

CTAC also manages backup and recovery operations, including automated RDS backups, encrypted S3 storage, and regular validation of recovery procedures. CTAC regularly validates backup integrity and recovery procedures to ensure the website can be restored in accordance with NIST and agency recovery objectives. Continuous configuration reviews, vulnerability scanning, and security tuning are conducted to ensure alignment with agency policies and NIST SP 800-53 Moderate controls.

DevSecOps and Continuous Improvement:

Infrastructure and application changes are managed using Infrastructure as Code and DevSecOps practices. (CTAC holds the AWS Competencies in Government Citizen Services and DevOps Services) CTAC leverages AWS CodePipeline, CodeBuild, and

CodeCommit to automate infrastructure provisioning, application deployments, and security checks. Configuration values and secrets are stored securely using AWS Systems Manager Parameter Store and AWS Secrets Manager, reducing operational risk and supporting audit readiness.

In parallel with operational support, CTAC provides ongoing Drupal development using an agile, iterative approach. The team conducts regular reviews of the Drupal backend, frontend themes, and content workflows to identify opportunities for improvement. Enhancements focus on usability, accessibility, and performance, including mobile-responsive design updates, navigation simplification, and Section 508 remediation. User experience improvements are prioritized based on stakeholder feedback, analytics, and evolving federal digital standards.

In total, CTAC operates the application, operating system, security configuration, and DevSecOps pipelines, while leveraging AWS-managed services for underlying infrastructure resilience. CTAC supports all documentation required to maintain the agency's Authority to Operate, including system security documentation, privacy artifacts, operational procedures, and compliance evidence. CTAC is a member of the Global Security & Compliance Acceleration on AWS Program (ATO on AWS). This documentation is continuously updated as part of normal operations rather than treated as a one-time activity.

Results and Outcomes:

Since assuming managed services responsibility, CTAC has delivered a highly stable and secure platform for the website. The website has maintained continuous availability with no major service disruptions, even during periods of elevated traffic. Performance improvements resulting from architectural tuning, caching, and Auto Scaling have significantly reduced page load times and improved the overall user experience.

Security posture has strengthened through automated patching, centralized monitoring, and proactive vulnerability management, resulting in a measurable reduction in security findings and faster remediation timelines. DevSecOps automation has reduced deployment risk and accelerated release cycles, allowing the agency to introduce updates and enhancements more quickly while maintaining compliance.

Operational efficiencies gained through automation and rightsizing have reduced cloud operating costs, while improved governance and documentation have streamlined compliance activities and audit readiness. Most importantly, the agency now operates a modern, user-friendly, and adaptable digital platform that supports its mission and is positioned to evolve alongside future requirements.

Conclusion:

Through this managed services engagement, CTAC delivers end-to-end AWS MSP capabilities for the agency, spanning secure cloud hosting, 24x7 operations, Drupal platform management, agile development, and continuous optimization. By combining AWS best practices with deep federal experience and disciplined operational processes, CTAC enables the website to remain a trusted, resilient, and compliant public resource, today and into the future.