

## Company Overview

BITS and BYTES is a small business delivering high-performance software development and IT solutions to the federal government. Founded by technology visionary Scott A. Macri, we specialize in agile, cloud-native development, cybersecurity, and systems integration.

With deep technical expertise and cleared personnel, we support CISA and other federal clients in building secure, scalable, and mission-focused software. Our team embraces modern practices including DevSecOps, microservices, and test-driven development to solve complex challenges and accelerate delivery.

Driven by innovation and committed to excellence, BITS and BYTES transforms bold ideas into powerful, real-world

## BITS and BYTES Advantage

- Proven success delivering secure, scalable solutions in support of CISA
- Deep expertise in cloud-native development, DevSecOps, and cybersecurity
- Cleared personnel with decades of federal software development experience
- Agile, adaptive teams focused on innovation, speed, and mission impact
- Rapid access to high-quality, cleared can-

## Methodology/Approach

- **Agile & DevSecOps:** Secure, iterative delivery using CI/CD pipelines to accelerate mission outcomes
- **Cloud-Native Design:** Microservices and containerized architectures built for scalability and performance
- **Test-Driven Development:** Automated testing integrated throughout to ensure quality, speed, and resilience



## Solutions and Services

### Enterprise Software Development

- Custom web, cloud, and mobile applications
- Agile development using DevSecOps and CI/CD pipelines
- Microservices architecture and containerized deployments

### Cybersecurity Solutions

- Malware Analysis Engineering: Lead development of MalwareNextGen for DHS/CISA—an advanced malware analysis platform integrating reverse engineering, behavioral analysis, and cloud-based automation.
- Vulnerability mitigation, security assessments, and compliance (CMMC, NIST)
- Cyber threat detection, response, and reporting
- Malware analysis and forensic investigations
- SOC support and interagency cyber collaboration

### Cloud Engineering & Integration

- AWS architecture design, implementation, and optimization
- Cloud migration, hybrid deployments, and infrastructure as code
- Scalable cloud-native solutions with built-in resilience and automation

### Technical Leadership & Support

- Cleared personnel for high-trust environments
- Program management, system sustainment, and modernization
- Rapid staffing of skilled, high-quality developers and engineers

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## Executive Experience

### Office of the Director of National Intelligence (ODNI)

Engineered a custom Java-based data generation tool that extracted content from Wikipedia, parsed it into Trusted Data Format (TFD), and loaded it into MongoDB as part of a broader ingestion pipeline. This solution enabled the aggregation and preparation of open-source intelligence for use across analytic platforms.

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### Department of Veterans Affairs (VA)

Led a team of 12 automation engineers on the oversight team for the VA's healthcare modernization initiative, VistaCore EHMP. Re-architected the existing automation framework to improve performance, scalability, and compliance with VA technical standards. Defined and enforced engineering best practices, conducted detailed code reviews, assigned workstreams, and trained developers to elevate team performance. Operated in a Mac-based development environment integrated with AWS.

In parallel, led a team of developers in designing and developing an enterprise Ruby/Sinatra web application for the **Food and Drug Administration (FDA)**. Developed "ShortStack," a Ruby-based request/response caching framework tailored for scalable government systems.

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### National Reconnaissance Office (NRO)

Led the full software development lifecycle for secure, mission-critical systems supporting national intelligence operations. Determined requirements, designed, developed, and tested web-based applications tailored to NRO's technical and security demands. Created custom installation packages for COTS software, developed automation scripts using Visual Basic, Shell, and Batch, and resolved complex issues related to Windows registry, operating systems, and security configurations during deployment. This work required deep technical expertise, strict adherence to classified protocols, and a clear understanding of software reliability in high-stakes environments.

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### National Geospatial-Intelligence Agency (NGA)

Maintained a complex network infrastructure supporting geospatial intelligence operations. Configured specialized hardware components and collaborated with technical teams to troubleshoot and resolve hardware and software anomalies in high-security environments.

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### Central Intelligence Agency (CIA)

Provided software development support across various classified projects, contributing to system reliability, scalability, and compliance. Collaborated with multidisciplinary teams to deliver secure, high-performance software solutions in accordance with CIA operational protocols.

Delivered multiple software engineering solutions in support of CIA mission operations. Designed and built a secure web application portal integrating LDAP and various RDBMS systems. Led the redesign and conversion of a legacy C application into Java to modernize functionality and improve maintainability.



### Department of the Army – Pentagon

Performed full-stack development for a weapons management system in support of the Department of the Army. Collaborated with cross-functional teams to gather requirements and translate mission objectives into technical specifications. Designed and developed the application using Ruby on Rails, ensuring compliance with strict security protocols and performance standards. Assessed and implemented security measures tailored to the operational environment. Worked closely with engineers to evaluate and enhance existing software infrastructure, identifying capability gaps and delivering scalable improvements. Operated in both Ubuntu Linux and Mac environments while executing a broad range of technical and non-technical responsibilities.

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### Defense Intelligence Agency (DIA)

Designed and developed a Ruby on Rails web application to manage all DIA's enterprise conferencing requirements. Delivered a RESTful social media-style application capable of converting multiple document formats into PDF to support Freedom of Information Act (FOIA) request processing. This tool streamlined secure document handling within classified environments and contributed to greater agency transparency and operational efficiency.

Led the design, development, and testing of a secure web application and cryptography API in support of Joint Intelligence Virtual Architecture (JIVA). This effort required precise adherence to intelligence community protocols, integrating encryption and secure communication standards into mission-critical software used across intelligence operations.

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### Office of the Assistant Secretary for Preparedness and Response (ASPR)

Led full-stack development for the international "Broad Based Communication" application, a mission-critical tool utilized by the **Department of Defense (DOD)**, **Department of Health and Human Services (HHS)**, the **National Institutes of Health (NIH)**, and their international partners. Gathered requirements and executed the design and development of the "Broad Based Capabilities Tool" (BBC) using Ruby on Rails. Identified and implemented security measures specific to government web applications and collaborated on infrastructure assessments to determine system capabilities and future needs. Attended inter-agency stakeholder meetings to align technical strategies across DOD, NIH, and HHS. Delivered Single-Sign-On (SSO) solutions to ensure secure, seamless access across enterprise applications. Operated in both Ubuntu Linux and Mac environments while managing a range of both technical and client-facing responsibilities.

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### Financial Crimes Enforcement Network (FINCEN)

Designed and developed a suite of financial web applications to support FINCEN's anti-money laundering and financial crime investigation efforts. The applications provided secure, scalable solutions for analyzing and reporting financial activity, supporting the agency's mission to detect and prevent illicit financial threats.

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### Department of Defense (DOD)

Designed and developed a web-based nutrition application using Python and Django to support counselor workflows for managing client health and dietary plans. The application streamlined operations and enhanced usability for healthcare support staff within the DOD system. Contributed to the Defense Travel System (DTS) project under a maintenance contract, providing technical support and enhancements for one of the DOD's mission-critical logistical platforms.