



Test and Evaluation Services

Information Technology (IT) systems are rapidly becoming more integrated and complex as Federal agencies increasingly embrace Agile development principles and Service Oriented Architecture (SOA) implementations. Thorough Independent Validation and Verification (IV&V) of these systems is paramount to ensure agency initiatives are fully satisfied and operational risk is minimized.

Titania is a small business leader that provides Test and Evaluation (T&E) services to the Federal government. Our extensive test experience, gained from the work done with the Centers for Medicare & Medicaid Services (CMS), Indian Health Service (IHS) Defense Information Systems Agency (DISA), Department of Labor (DOL), Software Engineering Center at Ft. Lee, U.S. Army Training and Doctrine Command (TRADOC) and other Federal agencies, enables Titania to lead and support the full spectrum of test efforts under a wide array of system implementations and software development life cycle methodologies.

Capabilities

- Test and evaluation
- Healthcare quality reporting systems
- Application validation and verification, both independent and integrated
- Manual/automated testing services for User Interfaces (UIs) and Application Programming Interface (APIs)
- Unit, integration, and regression testing expertise
- Architecture design/development of application automated test frameworks
- Requirements and user story based testing that leverage behavioral driven methodologies
- Accessibility testing to verify Section 508 and WCAG conformance
- Agile testing expertise and certification
- Security, vulnerability, and penetration testing of systems and infrastructure
- Performance, load, and stress testing
- Backend data validation
- Joint interoperability T&E
- Operational and in-theater test events
- Adherence to federal standards (e.g. FISMA, HIPAA, NIST)
- Testing process improvement through CMMI and Lean practices



Test and Evaluation Services

CMS Healthcare Independent Validation & Verification System (HIVVS)

- Provides testing subject matter expertise in the areas of automated functional, security, accessibility, and performance testing for systems developed using agile frameworks and methodologies
- Develops, maintains, and enhances an automated testing framework using applications such as Ruby, Cucumber, Selenium, and SauceLabs to enable a Behavioral Driven approach (through Gherkin) to encapsulate user workflows that model improved expected system functionality
- Provides embedded agile team testers that proficiently develop both UI and API based automated test cases, in sprint, alongside application developers to validate the functionality of more than a dozen CMS quality reporting systems
- Leverages AWS, Jenkins, Terraform, and Docker to host, build, deploy, and execute automated testing services within a Cloud environment on demand and tailored for specific agile cadence functionality

- Performs security testing (using Burp Suite and OWASP ZAP), accessibility testing (JAWS, SortSite, WAVE, AATT), and performance testing (JMeter and Performance Center) on CMS systems to assess system posture above and beyond functional testing efforts
- Develops and maintains a real-time testing dashboard using Splunk and TestRail, thus showing the status of system testing at all levels and types, from an easy to interpret green/yellow/red icon down to the execution of individual test steps, providing detailed metrics at each level

CMS HCQIS Independent Validation & Verification System (HIVVS)

- Develops software testing strategy and conducts IV&V testing for more than 30 CMS Quality Reporting Systems
- Maintains test tool expertise in HP Application Lifecycle Management, HP Unified Functional Testing, Selenium, TestRail, and Serena Application Lifecycle Management

- Architects and develops CMS' HIVVS Automated Testing Framework (ATF) using C#, which enables the rapid production of automated test cases
- Provides agile and automation subject matter expertise
- Develops governance documents articulating testing policies and procedures for all program contractor staff
- Provides business and operational impact statements based upon the quantity and severity of defects found through testing

IHS Software Engineering Support Services (SESS)

- Assists IHS testing sites' end users with alpha and beta testing to ensure that a quality software product goes into production and that the individual site's testers are sufficiently trained and prepared
- For Drug Enforcement Agency (DEA) recertification every two years, retests all aspects of the application and demonstrates them to the DEA auditor for recertification

DoD Joint Interoperability Test Command (JITC) Med-Community of Interest (Med-COI)

- Provide the DoD's JITC with test and evaluation senior level expertise to support the Interagency Program Office for integrated Electronic Health Record Medical Community of Interest (Med-COI)
- Provide technical advisement to the Defense Information Systems Agency on a range of relevant integration issues, including transfer formats and acceptable encryption ciphers
- Establish a common data dictionary to ensure that effective and accurate medical record capture, storage, transmission, and receipt were performed correctly and create a baseline for future system integration

About Titania

Founded in 2012, Titania delivers valued services to the Federal government in support of their most critical missions. In 2020, the company was acquired by Swish Data and operates as an independent business subsidiary. Titania professional services include Operational Intelligence and Training, Healthcare Information Technology, IT and Program Management, and Test and Evaluation Services.