

# LEAF

## Leidos Enterprise Application Framework



Our customers are under increasing pressure to deliver critical capability and functionality quickly and cost-effectively. Their legacy software solutions are often costly to maintain and cannot keep pace with evolving user needs, dynamically changing requirements, and complex environments. Building a tailored software solution from scratch is both schedule and cost prohibitive, and adapting existing or off-the-shelf software can make it difficult to accommodate new technologies and emerging user needs.

### MISSION SOFTWARE SYSTEM

The Leidos Enterprise Application Framework (LEAF) is a set of Leidos developed reusable software libraries that allow our engineers to deliver cost-effective, custom software development solutions to our customers at near commercial-off-the-shelf (COTS) speed. In combination with Agile and SecDevOps processes, LEAF helps Leidos build complex, custom software solutions better, faster, and cheaper.

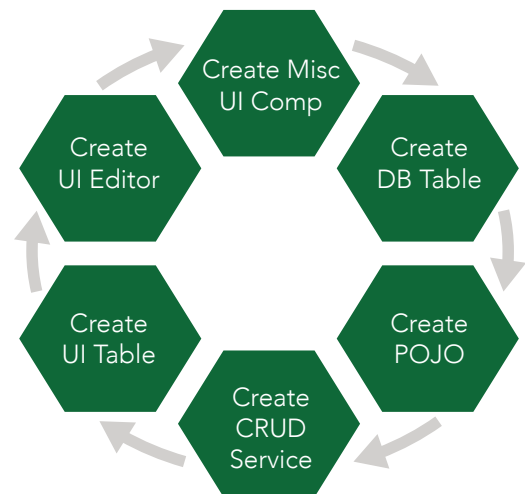
### OUR APPROACH

Leidos' LEAF software development model maximizes the use of extensible framework technologies to develop high-quality applications faster and cheaper by reducing the amount of boilerplate code needed to create an application. We leverage LEAF to rapidly build and modernize software solutions that are tailored to meet each customer's unique and dynamic needs.

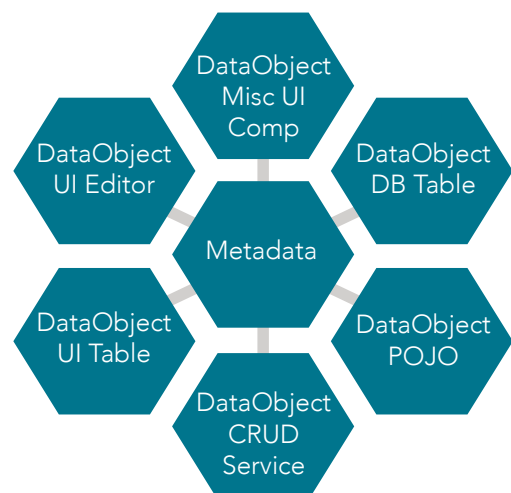
The framework provides reusable components for both frontend and backend development, such as customizable user interface (UI) components, data services, geospatial rendering, and workflow management and execution. Using these components allows developers to spend less time writing custom code and more time tailoring the solution to each customer's needs. LEAF is not tied to any explicit technologies and offers the necessary flexibility to accommodate emerging technologies and reduces long-term maintenance and sustainment burdens.

Enabled by our commitment to framework based platform solutions, we operate multiple software centers recognized as Agile Centers of Excellence (COEs) using industry leading Agile processes and SecDevOps methodologies. Our COEs combine reusable tools like LEAF with a common continuous integration and continuous delivery pipeline and a highly capable staff to develop highly complex software solutions quickly and at low cost. Our teams have extensive experience modernizing legacy, original equipment manufacturer (OEM) applications into modern cloud-based, microservice-enabled architectures and integrating, testing, and delivering those solutions into the customer's preferred environments.

### LEGACY: RINSE & REPEAT



### LEAF: DEFINE & REUSE



OUR CAPABILITIES

Backend Development (Java)

- ▶ Data CRUD (create, read, update, delete) and data tagging via reusable services, supporting RDBMS and NoSQL databases
- ▶ Data querying, filtering, and sorting
- ▶ Support for both transient and enterprise/ application-owned data
- ▶ Data change event subscription, management, and delivery with user/system definable subscriptions, supporting distribution across microservices
- ▶ Security policy services adaptable to domain settings, authorization, and authentication
- ▶ Simultaneous support for multiple data standard versions

Frontend Development (JavaScript, HTML, CSS)

- ▶ Configurable form editor, table layouts, and dashboard user interface components
- ▶ Adheres to web component standard, ensuring consistent functionality across modern browsers and use with any JavaScript library or framework that works with HTML
- ▶ Client-side utilities for data management, handling, and transformation provide methods for many common operations (e.g., client-side filtering and sorting)
- ▶ Inter-widget communication to ensure user interface displays recent changes without requiring a manual refresh
- ▶ Form factor awareness to support smaller screen sizes
- ▶ Support for thick and thin clients

FEATURES AND BENEFITS

- ▶ Build once, use many approach
- ▶ Reduces time to get usable products to customers at a lower cost
- ▶ Reusable components enable programs to adapt quickly to changes without impacting cost or schedule
- ▶ Increases the maturity and quality of our solution
- ▶ LEAF is flexible and extensible:
  - › Can be used to build applications in any domain
  - › Abstracted from specific technologies to facilitate migration (e.g., RDBMS, NoSQL)
  - › Easily integrated with common enterprise capabilities (e.g., workflow, rules, business intelligence, legacy services)
  - › Supports various architecture paradigms (monolith or microservices) and is agnostic to specific database and application server implementations
- ▶ LEAF saves time and money:
  - › Ideal complement to an Agile approach as working software is achievable very early in the software development lifecycle (SDLC)
  - › Minimizes development time and costs by reducing need for boilerplate code
  - › Reduces maintenance by providing the flexibility to accommodate emerging technologies
  - › Reduces risks on program execution by using a proven solution

PROVEN SUCCESS

We have used LEAF to support over a dozen programs and have a proven history of delivering high-quality software on schedule and budget. Our teams using LEAF have reduced software costs up to 50 percent. Programs include:

**U.S. Military Branch:** Command and Control Applications and Information Services Development (C2AD) delivery order LEAF-based solution implementations include:

- › Unit Level Command and Control (UC2): fielded modernized application in 14 months
- › Airspace Mission Applications - Airspace Information Services (ASMA-ASIS): replaced incumbent’s two-year prototype in three months
- › Request Information Services for Command and Control (RISC2): delivered first version in under six months
- › Air Execution Information Services (AXIS): delivered minimum viable product to Government six months after project kickoff

**Commercial Health Care:** With LEAF at its core, Leidos’ commercial health product careC2™ Pathways was able to go from concept to first sale in only 11 months. LEAF forms the core of the careC2 portfolio of products, including Pathways, Quantum, Health Align, and Home Align.

**U.S. Government Agency:** LEAF provides the foundation of the enterprise network systems, services, and support contract portal, allowing users to monitor the status of IT assets across the enterprise as well as streamlining the workflow for IT service requests.

**U.S. Government Agency:** Modernized information technology solution that provides a live, fused common operational picture shared in real-time from tactical commanders to the strategic level. The service offers vital connectivity to systems used to plan, execute and manage military operations for both joint and multinational operations.

WHY PARTNER WITH LEIDOS?

Many organizations need to modernize legacy software systems and integrate new technology while adhering to strict timelines and budget. LEAF, through its reusable software libraries and Agile and SecDevOps approach, help our customers build new and update existing software solutions at near COTS speeds. LEAF has been used on more than a dozen instances including vital programs for the U.S. military, various U.S. government agencies, and in the healthcare industry.

NEXT STEP

More and more organizations are faced with the need to update legacy software quickly and create new software systems within a budget. Contact our software development experts to determine if LEAF is the right solution for your software challenge.





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## ABOUT LEIDOS

Leidos is a Fortune 500® information technology, engineering, and science solutions and services leader working to solve the world's toughest challenges in the defense, intelligence, homeland security, civil, and health markets. The company's 37,000 employees support vital missions for government and commercial customers. Headquartered in Reston, Virginia, Leidos reported annual revenues of approximately \$11.09 billion for the fiscal year ended January 3, 2020.

## FOR MORE INFORMATION

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