DDC-I

INDUSTRY OVERVIEW

Deos for Defense

Real-Time Operating System that Enables Rapid Updates to the Warfighter

Deos™ is a dual-use technology. First developed for commercial aerospace safety- and mission-critical systems, Deos offers military platforms a robust, tested solution with more advanced capabilities than legacy RTOS products.

Military platforms can leverage Deos for modular design and to speed agile software deployment. New functionality can be implemented quickly providing faster updates for the warfighter and enabling platforms to adapt to ever-changing threats.

Example Applications

- **Sensor fusion**
- **Autonomy**
- **ISR**
- **Avionics**
- **Radar/Sonar**
- **Missile guidance**
- **Satellite communication**

Deos RTOS for Embedded Military Platforms

- Enables faster upgrades and support for streamlined agile development
- Is aligned with MOSA, FACE®, GCIA & PYRAMID
- Provides ultra-fast boot times for rapid spin up and system recovery
- Includes secure and modular boot for protection and customization
- Has a proven pedigree with millions of flight hours on tens of thousands of aircraft
- Is DO-178 DAL A certifiable when safety is mandated
- Provides portability and scalability for applications like weaponry and autonomous or crewed systems

Move Beyond Legacy RTOS Products

Many legacy defense RTOS solutions carry inherent development and maintenance costs. They compile into a monolithic binary image that require a cumbersome and lengthy process to field new capabilities. Defense developers often are then forced to sacrifice critical qualification and testing steps to deploy updates in a timely manner.

The modular Deos kernel architecture provides a building block binary component structure. This architecture enables:

- The ability to isolate and re-use software modules across platforms
- Incremental updates and capabilities rapidly to systems
- A secure infrastructure

©2026 All Rights Reserved - - DDC-I, Inc. 4545 E. Shea Blvd, Suite #210; Phoenix, AZ 85028
DDC-I, Safety Critical Software Solutions for Mission Critical Systems
http://www.ddci.com sales@ddci.com 602.275.7172

Key Value Deliverables

- Scalable
  - From microprocessors (MMU-less) to large scale multiprocessors
  - General deterministic systems to strict safety critical requirements (e.g., DAL A)
- Supports RMS, ARINC-653, and POSIX
- Real-time/deterministic
  - Accurate/low jitter

Fast context switch times, low overhead

- Ultra-fast boot
- Minimal OS overhead/interference
- Robust
  - Time & space partitioning that provides fault tolerance and security
  - Designed with DAL-A processes
- Hypervisor aligned
  - Operates on Xen and seL4
- Paravirtualization for other OS environments
- Middleware
  - I/O Infrastructure (IOI) provides data conversion & I/O handling
  - UDP, lwIP, DVMS, CFFS
- Device drivers
- Security – minimal attack surface
  - DO-178 DAL A & static analysis processes, DO-326A
  - Partitioning, down to the cache level, isolates applications and the OS
  - Secure boot
  - Application & OS obfuscation
- Significant 3rd party support
  - Enable AI algorithm deployment in deployed, embedded systems
  - Robust testing tools
  - COTS hardware BSPs
  - Communication networks (UDP, TSN)

©2026 All Rights Reserved - - DDC-I, Inc. 4545 E. Shea Blvd, Suite #210; Phoenix, AZ 85028