



# AonixObjectAda® Raven

## Solutions for Safety-Critical Systems

### Tools Support:

- ◆ Full IDE
- ◆ Ada Development Toolkit (ADT) Eclipse plug-ins for Wind River Workbench environment
- ◆ Efficient cross compiler
- ◆ High quality code generator
- ◆ Source-level target debugger
- ◆ Ethernet and serial download

### Real-Time Kernel Features:

- ◆ Small size
- ◆ Fast execution
- ◆ Deterministic behavior
- ◆ Bounded memory usage
- ◆ Safety-Critical certifiability to the highest levels of criticality
- ◆ Ada 95 Protected Object support
- ◆ External events access through APEX queuing ports
- ◆ Raven runtime executes in a VxWorks 653 partition via the APEX interface

### Host Platform Support:

- ◆ Windows XP

### Target Support:

- ◆ PowerPC

### ObjectAda®: Bringing Safety to Hard Real-Time applications

ObjectAda Real-Time RAVEN employs a small and very fast real-time kernel that is perfectly suited for hard real-time and safety-critical applications. It also provides the reliable, feature-rich toolset most critical system developers require to help them build an efficient, provable, verifiable and/or certifiable, deterministic real-time application.



### Designed to Address Safety-Critical Systems

From the start, the design and implementation of RAVEN is focused on deterministic behavior, a requirement for safety-critical systems. RAVEN satisfies the highest levels of criticality, even Level A as defined by the FAA DO-178B software safety guidelines for airborne systems.

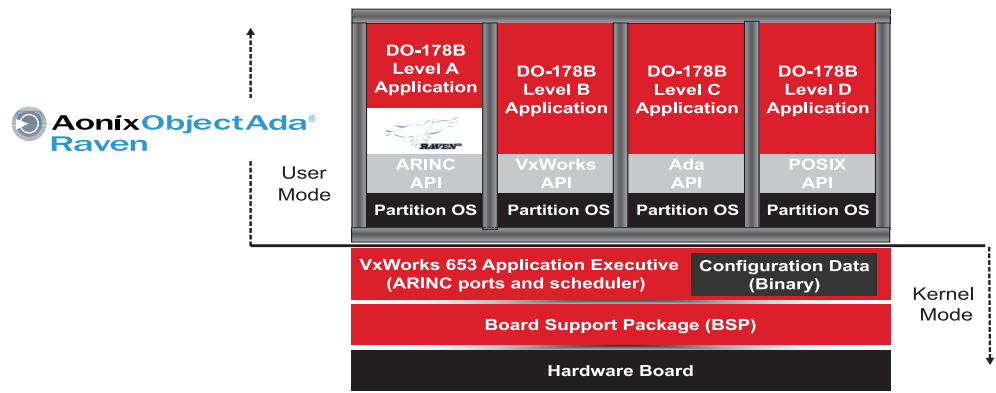
### VxWorks 653 Integration

ObjectAda Real-Time RAVEN implements a runtime that is specifically designed for use in multi-partitioned RTOS products providing ARINC 653 services. New features of the product include support for Ada tasks with ARINC 653 periodic process properties using new pragmas. The RAVEN kernel supports tasks with periodic and aperiodic properties within the same application.

### Industry Standards that Support Safe Applications

RAVEN's design is based on the the RAVENSCAR Profile as defined in the Ada Reference manual for Ada 2005. The restricted subset, originally adopted at the Eight International Real-Time Ada Workshop (IRTAW-8), Ravenscar, UK, accommodates certification requirements for high-integrity safety-critical, real-time systems.

## The Atego/Wind River Systems Safety-Critical Solution





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## Reliability

Ada has long been the preferred choice for the most reliable systems for complex application development. ObjectAda Real-Time RAVEN extends Ada's capabilities with Protected Types and Protected Objects for implementing modern multitasking programs with minimal overhead.

## AonixObjectAda RAVEN - Product Packages and Options

The basic feature set is appropriate for any hard real-time application where a small, fast kernel is needed. Includes:

- ◆ Fully Integrated Development Environment (IDE)
- ◆ Ada 95 cross compiler
- ◆ Browser
- ◆ Cross debugger
- ◆ RAVEN runtime

## Wind River Workbench Integration

The ObjectAda Development Toolkit is Eclipse-based and accommodates integration with Wind River's Workbench technology. By delivering the power of the standard Eclipse IDT with Ada programming awareness, Atego provides developers with built-in

manager, editor, difference capability, compiler, debugger, and command history. Developers can focus on building applications, not on integrating tools since the Atego Eclipse IDE also retains a large set of existing plug-ins for source-code configuration management.

ObjectAda Real-Time RAVEN produces DWARF debugging aggregates, allowing developers to use Workbench to debug their Ada programs.

## Certification Option

All of the lifecycle data for the real-time kernel needed to meet the certification requirements of DO-178B for avionics, IEC 61508 for industrial and CENELEC EN 50128 for rail, just to name a few, are available with this option.

The Certification Option for DO-178B, for example, includes:

- ◆ RAVEN kernel source code
- ◆ Runtime functional and coverage tests
- ◆ Results of the tests
- ◆ Analysis and certification documentation (as defined by DO-178B for Level A certification)

## Other Support:

- Real-time kernel sources available
- Certification materials for runtime environment
- Professional services available including certification expertise

## Professional Services and Support

Safety-critical and real-time experts with years of certification expertise are available to help with your certification challenges.

To obtain more information, please contact Atego at [www.atego.com](http://www.atego.com) or call one of our sales offices

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