



Professional Services



Enable Project Success

Aonix is uniquely positioned to assist you with a full range of consulting and training services

The Aonix Professional Services Organization bridges the gap between your company's existing expertise and core competencies and the special (and perhaps temporary) needs that you might have for your next important project.

Whether your application is consumer electronics, commercial avionics or defense systems, you're probably seeing significant code expansion and dramatic pressures to reduce time to market. You could be struggling with your ability to get the job done effectively, efficiently and on time.

Here are examples of the many ways Aonix can help your next project :

Software Development Activities

- Requirements capture
- Architecture and design
- External review
- Tune real-time behavior
- Analyze and optimize performance
- Portability and scalability guidance
- Multi-core and multi-processor optimization
- Safety certification
- Code implementation

Software Modernization Activities

- Real-time Java strategy review
- Multi-language operation
- Programming language translation
- Security review and enhancement
- Porting to new platforms
- Reverse engineering
- Integration of independent components
- Training and mentoring

Complementary to our commercial software production activities, Aonix offers strong knowledge of real-time and critical systems. Indeed, the relevance and success of the Aonix Professional Services Organization come from our experience in developing software for customers with high expectations to meet their deadlines, fulfill commitments and deliver quality services.

Our differentiation lies in 4 major areas:

- **A unique position** in our fields of competence
- **A company-wide commitment to quality** through strict development standards
- **An international presence** with offices in France, Germany, the UK and the US
- **A corporate culture** ensuring complementary, experienced and cohesive teams allowing evolution of our technical engineers to a higher level of expertise, and flexibility to meet the needs of our customers

Defense

Space

Avionics

Transportation

Telecom

Automotive

Automation

Energy



Expand Your Capacity to Deliver

Specification

Development

Code Review

Optimization

Validation

Certification

Modernization

Mentoring

Qualified Aonix Personnel Are Ready To Service Your Needs

Aonix engineers are highly skilled professionals in critical systems software development and a number of them have been awarded patents and published papers in well-known trade journals. Our technical staff's experience lies in a variety of areas, including but not limited to:

High-level programming

- Java Virtual Machine development
- Java library development
- Application development in Java, Ada, C and C++
- Database schema design
- Web-based database interfacing
- Java servlets

RTOS Integration

- INTEGRITY, Linux, LynxOS, Neutrino, Nucleus, PikeOS, VxWorks, Windows CE & more

Low-level programming

- RTOS development and internals
- Device drivers
- Assembly language (x86, PPC, ARM and more others)
- Porting to a wide variety of RTOS and CPU combinations

Certification

- Production of certification evidence (e.g. DO-178B or EN50128)
- Certification and re-certification testing
- Supporting clients during certification of their products

Analysis and Documentation

- Modeling (UML)
- Static analysis
- Code inspection / quality assessment
- General technical writing
- Writing of technical military standards

Education and Training

- Standard courses in modern embedded software development tools and techniques such as Ada, Java, C/C++, UML critical software development
- On site at Aonix facilities or at the location of your convenience

"In our latest product release for the 4500 Data Collection Terminal, we replaced the prior JVM from another vendor with Aonix's PERC JVM. During this process we encountered several complex integration and performance-related difficulties. In order to resolve these issues we engaged Aonix's professional services to help with the project.

I was impressed with the engineer's subject matter expertise and work ethic. He not only helped get our project back on track but also suggested additional architectural improvements to our application."

Rana Gujral

Manager, Engineering
Workforce Central Systems



Empower Your People

Representative Client Engagements

Architecture

A leading worldwide supplier of secure radio communications equipment for defense and aerospace applications produced a Java software infrastructure to facilitate reliable digital communications and secure message distribution. The company contracted with Aonix to provide training on relevant Java technologies and to provide leadership and advice on architectural issues. Aonix additionally provided resources for the initial design, production of the specification and initial software design documents and helped produce a working prototype for training purposes.

Technology integration

A European customer using real-time Java to develop a command and communication device for a defense application required OpenGL vector drawing graphics capabilities. Aonix developed Java wrappers for an existing C implementation of OpenGL libraries.

Technology refresh

A well-known North American defense contractor with a project to maintain a large Ada application for use by the Canadian government needed to modernize that software by porting to the Microsoft Windows environment and adding important new functionality. Aonix was engaged as a subcontractor to port and enhance the application, delivering 9 incremental releases over multiple years.

Performance optimization

An international supplier of chemical process automation equipment had written Java infrastructure software to monitor its pressure and temperature sensors and control the operation of its automated valves. Aonix engineers reviewed the code and identified numerous opportunities for optimization as well as several flaws in program logic. Corrective measures were described to the customer and processes were recommended to avoid reintroduction of these problems by subsequent development.

Product customization

A leading European railway equipment supplier using Aonix Ada development environments and the ObjectAda Raven high integrity runtime kernel needed these environments to target their internally produced custom hardware platforms. Additionally, the application was required to meet industry safety standards. Aonix produced the custom ObjectAda Raven board support packages for these specific requirements.

Research and development

With funding from the U.S. DARPA, a large defense contractor subcontracted to Aonix to help research and develop technologies that allow improved software quality (flexibility, autonomy, reliability, availability, maintainability, and reusability) in real-time Java applications.

Application development

A supplier of in-vehicle telematics computers for long-haul 18-wheel trucks contracted with Aonix to design and develop the application software that runs on their proprietary hardware.



Real-Time

Ada

Java™

Embedded C

UML

DO-178B

EN 50128

Security

A Resource for Every Job

You have hard problems to solve.
You have little time and resources to solve them.
Aonix has highly skilled people available to help.

Senior Architects

- High-level analysis and design
- Engineering team mentoring and oversight

Senior Software Engineers

- Highly experienced in system development, integration and deployment
- Breadth of hardware/RTOS experience
- Experience with diverse development environments and IT infrastructures

Principal Software Engineers

- Significant hands-on experience in complex, real-time, mission and safety critical systems
- Engineering team leadership

Software Engineers

- Qualified developers appropriate for coding, testing and production of technical documentation under leadership of senior or principal software engineers

Project Managers

- Experienced in complex system development
- Risk mitigation and management
- Intra-departmental schedule assessment and management
- Effective coordination of dispersed team collaboration

Trainers/Mentors

- Effective communicators and instructors
- Real-world experience related to training topics
- Versed in general technology as well as product-specific training topics



Our customers include:

AIRBUS	CNRS	L-3 COMMUNICATIONS	SAGEM
ALCATEL LUCENT	DASSAULT AVIATION	LOCKHEED MARTIN	SELEX SISTEMI INTEGRATI
ALENIA AERONAUTICA	DCNS	MBDA	SELTATEL
ALSTOM	EADS	MITEL NETWORKS	SHELL
ANSALDO STS	ELSAG DATAMAT	MITSUBISHI HEAVY INDUSTRIES	SIEMENS
ASCOM	ERICSSON	NATS	SIGNALBAU HUBER
ASTRIUM	EUROCOPTER	NORD-MICRO	SNCF
AT&T	FUJITSU	NORTHROP GRUMAN	THALES
AVAYA	GENERAL DYNAMICS	OERLIKON CONTRAVES	THALES RAYTHEON SYSTEMS
BAE SYSTEMS	HEWLETT PACKARD	PRATT & WHITNEY	TURBOMECA
BOEING	HISPANO-SUIZA	RATP	TURIN NETWORKS
BOSCH	HONEYWELL	RAYTHEON	VIASAT
CERTIFER	I+ME ACTIA	ROCKWELL COLLINS	WESTINGHOUSE RAIL SYSTEMS
CISCO	IGT	ROHDE & SCHWARZ	VETRONIX
CNES	KRAUSS-MAFFEI WEGMANN	SAAB BOFORS DYNAMICS	& many more



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