



ObjectAda

AdaNav Analysis Toolset

AdaNav Features:

- The most complete Ada source semantic browsing capability ever!
- Cohesive integrated HTML reports for navigation with a Web Browser
- A Global Data Dictionary of types and objects for each compilation unit
- Transitive Unit Dependency Tree analysis
- Depth-first Call Tree analysis
- Execution profiling based on time and call counts

AdaNav Benefits:

- Improves understanding of unfamiliar code
- Simplifies code reviews
- Increases development productivity
- Locates variables that may be uninitialized prior to their use
- Highlights unnecessary dependencies between compilation units
- Identifies hidden recursion chains
- Pinpoints execution bottlenecks

AdaNav Availability:

- ObjectAda for Windows Native
- ObjectAda for UNIX/Linux Native
- AdaNav can also be used to analyze cross target programs and libraries created with ObjectAda cross-compilation environments including those targeting ETS, RAVEN, and LynxOS

ObjectAda® AdaNav™: An Analysis Toolset for Understanding Large and Complex Systems

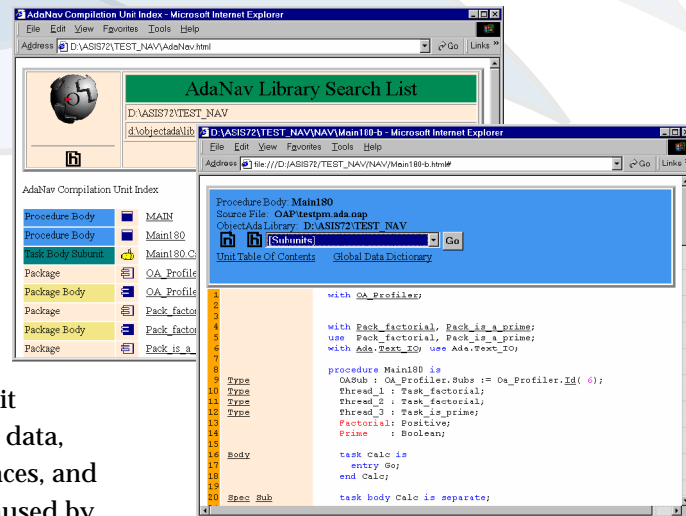
Ada itself is well suited to deal with the complexity of large systems with perhaps thousands of compilation units and millions of lines of code. But it alone does not relieve the chaos that can result when teams of engineers attempt “Programming in the large” or to integrate and modify even much smaller yet intricate systems.

Unfamiliarity with new separately developed or reused legacy code can lead to programs that are crippled by unnecessary unit dependencies, uninitialized data, inefficient key utility interfaces, and potential stack overflows caused by hidden recursive call chains. All these problems add significantly to the cost of system development, testing, and deployment.

A set of quality semantic analysis tools can help sort through the madness, to unravel tangled webs of interdependencies and hidden problems even in the largest development environments. The AdaNav toolset for ObjectAda is designed to lower costs by helping eliminate these and other problems and by reducing the complexities of developing and maintaining large Ada systems.

AdaNav Toolset

Browseable Unit Source Generator—Generates a *Compilation Unit Index* that shows you what units are in each library and what other search libraries are linked together. It also generates individual HTML files that present a color-formatted copy of your

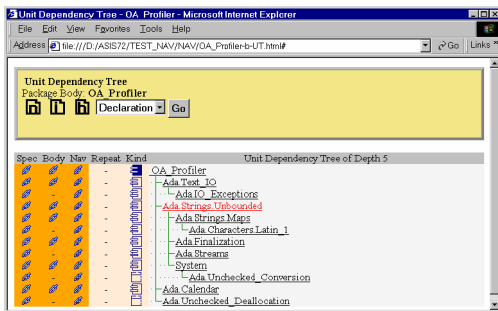


compilation unit sources with links to semantically related entities. Uninitialized global and local variable declarations are highlighted in the generated browseable source. A form selection box provides choices to go to the AdaNav source for semantically related units. Selections include corresponding declarations, bodies, subunits, and child units.



A **Unit Table of Contents** provides a condensed list of declarations linked to the full source, and a **Global Data Dictionary** lists information about global types and objects.

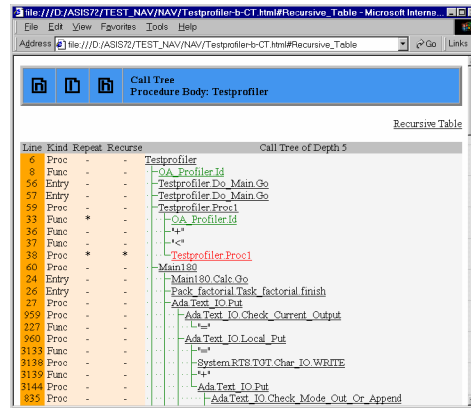
AdaUnitTree Tool—Generates a compilation unit index page and individual HTML files that present a **Unit Dependency Tree** of transitively “withed” units.



The names are links to the AdaNav Browseable Source file for the specification of the unit listed on the same row. Units that are not referenced and thus are not needed by the root unit are highlighted in red. The with clauses for these units can be safely removed resulting in fewer interdependencies between units.

AdaCallTree Tool—Generates a compilation unit index page and individual HTML files that present a

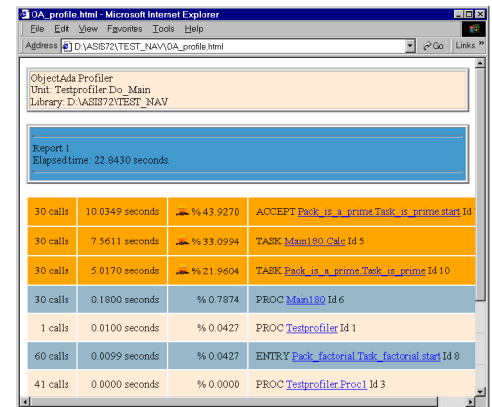
Call Tree of transitively called units. A table of recursive call chains is also included.



AdaNav Profiler Tool—Creates compilable copies of the program sources and inserts a unique controlled object declaration in callable entities such as subprograms and accept statements of entries. Once these sources are registered, compiled, and linked into a new executable, the controlled object's Adjust and Finalize procedures are invoked whenever a callee's scope is entered and exited. The callee's count and timing information is collected and saved at runtime. Later, a report tool constructs the profile report either in text format or in HTML with links to the AdaNav browseable sources.

Semantic Links in Generated Browseable Source

- Links in Compilation Unit Index let you navigate to source code and explore your compilation units
- With clause names are linked to library unit declarations
- Names are linked to declarations
- Declarations are linked to bodies and back to declarations
- Private types and constants are linked to full declarations
- Stubs are linked to subunits and back to stubs
- Objects are linked to their types
- Renamings are resolved to the original entity



To obtain more information, please contact Aonix at www.aonix.com or your local Aonix office.

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