

# Wind River® Workbench

+Live Demonstration

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# Introduction – current situation & motivation



WIND RIVER

Tornado IDE  
(VxWorks)



SNIFF+ IDE

Vision Click/  
SingleStep

- + VxWorks configuration
- + Target management
- + Dynamic module download
- + Powerful tools: windSh/Windview
- Minor Edit & Project Management
- Proprietary (open) IDE interface

- + Code browsing & navigation
- + Edit / Project management
- + Team support (CMVC)
- + Multi-Language support
- + Open / customizable
- Maintenance overhead

- + HW bringup support
- + Flash support
- + Debugging
- Separate tools

Linux Support



## WindRiver Workbench (Eclipse based IDE concept)

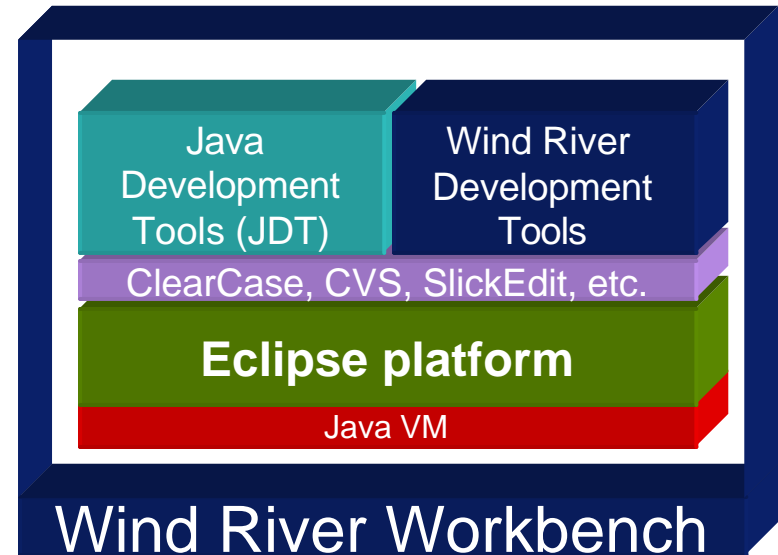
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- + HW bringup / Flash support
- + Debugging
- + Linux OS Support

# Introduction – Eclipse platform



WIND RIVER

- WindRiver Workbench is based on the **Eclipse** platform
  - An open, industry supported, **java-based** framework for **tool integration**
  - Integration via **Plug-Ins** for additional technologies like *ClearCase*, *PVCS*, *SlickEdit* and more available
  - Runs on a wide range of operating systems with common look & feel
  - Open-source licensing and a community of tool developers
  - For more information please see <http://www.eclipse.org>



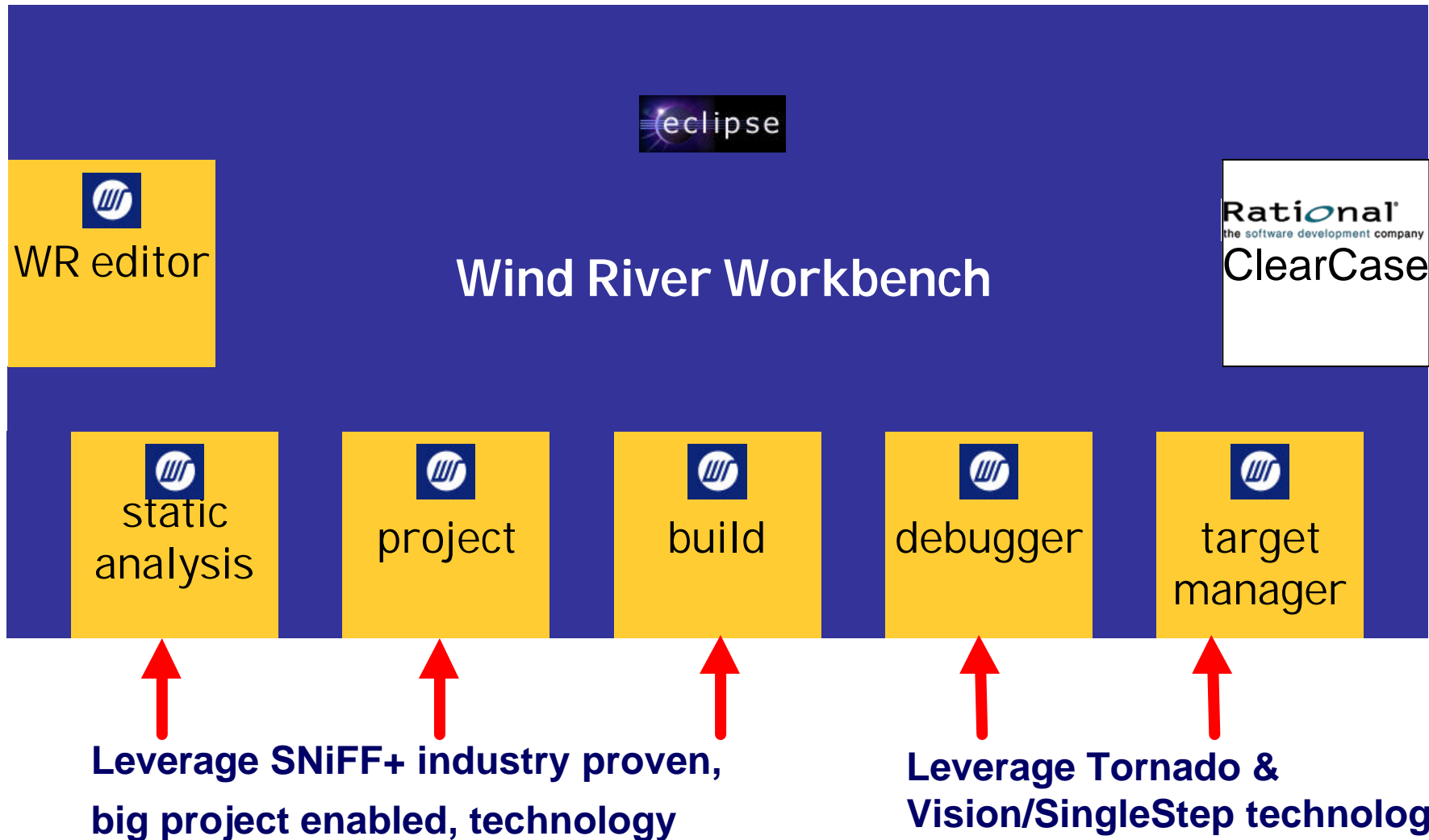
# Eclipse platform – what it provides



WIND RIVER

- Ready to use UI features
  - Native look and feel on all supported host platforms
  - Dockable & Floating views
  - **Perspectives** (user customizable views to the IDE)
  - Toolbars configurable & dockable by end user
  - Drag & Drop support
  - History
  - Bookmarks
  - Context sensitive Online Help
- Integration with 3rd party tools
  - Over 300 Plug-Ins: CM– UML– Testing- Tools  
please see <http://eclipse-plugins.2y.net/eclipse/>

# Introduction - Workbench Components



# Workbench - High Capability Tool Chain



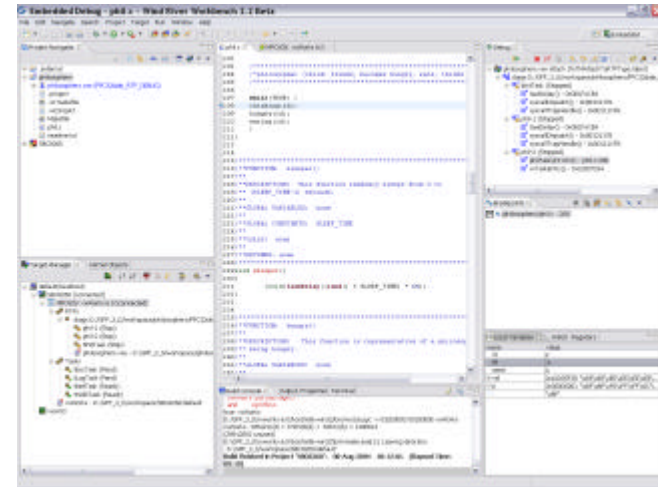
WIND RIVER

- **Choice of 2 compilers for flexibility and easier migration**

- Gnu toolchain 3.x
- Wind River compiler (diab) 5.2  
(significant new cross-module optimizations)

- **WindRiver Multi-X Debugger**

- Eclipse based, custom views
- Designed with a plug-in architecture
  - Target OS (*VxWorks, Linux*)
  - Connection Types (*JTAG, Serial, Ethernet*)
  - CPU (*PowerPC, Intel, ARM among others*)
- debug multiple tasks, RTPs, and processors concurrently
- JTAG connection for hardware bring up
- Kernel & User mode debug via a single agent (Linux)
- Task mode and system mode debugging (VxWorks 6.0)
- Same WDB agent for VxWorks 6 and Linux 2.4.x
  - Future development will be based on pTrace (Linux 2.6 Kernel)
- Performance optimized for large code bases

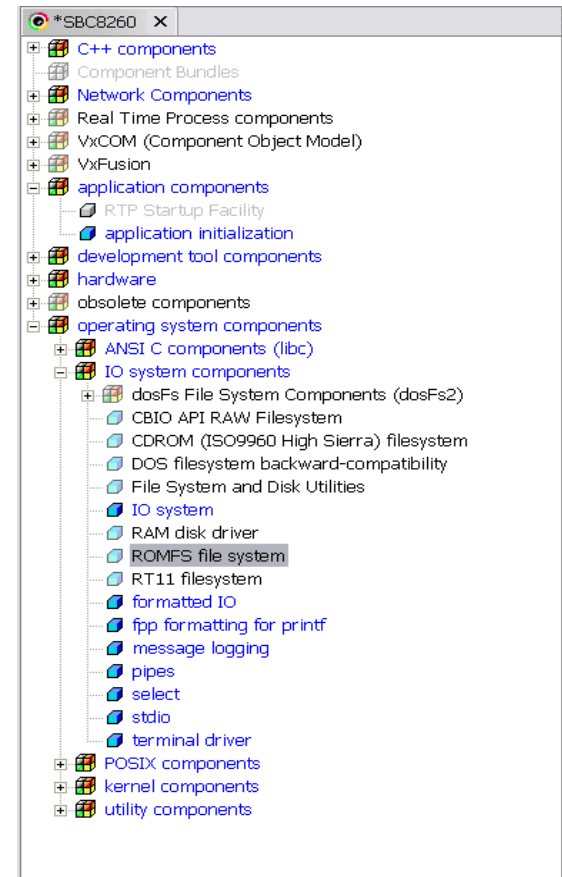


# Workbench - Project and Build



WIND RIVER

- **Extensions to the Eclipse project system**
  - Wizards to create new projects
    - *bootable, downloadable, RTP's, BSP's*
  - Integration with VxWorks kernel config and system builder UI
  - Multi-Language project support
  - Migration of existing projects (T2.2, SNIFF+ 4.x) by providing a Project Importer Utility
- **Build extensions**
  - Multi-language, multi-platform build system
  - Based on Makefiles (gmake) maintained by the IDE
  - Automatic generation of makefiles (including dependencies)
  - Build can be started also from command line
  - Configurable for WindRiver (diab) and GNU compiler
  - Easily build RTP's for different build specs

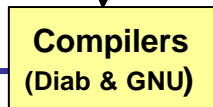
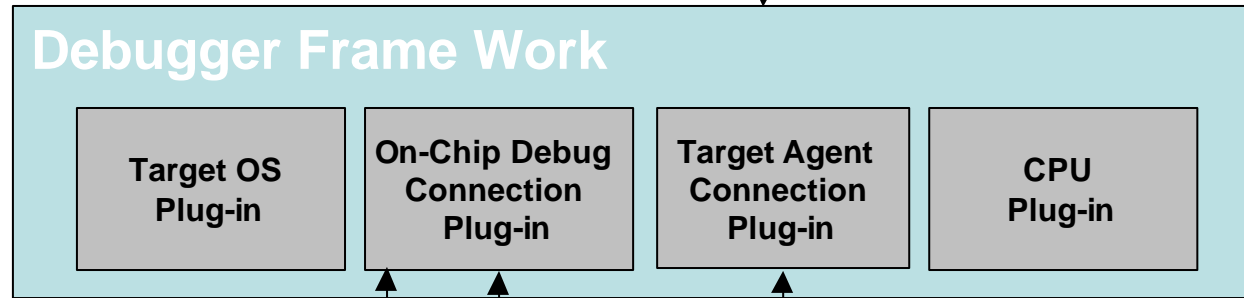


# Wind River® Workbench Architecture

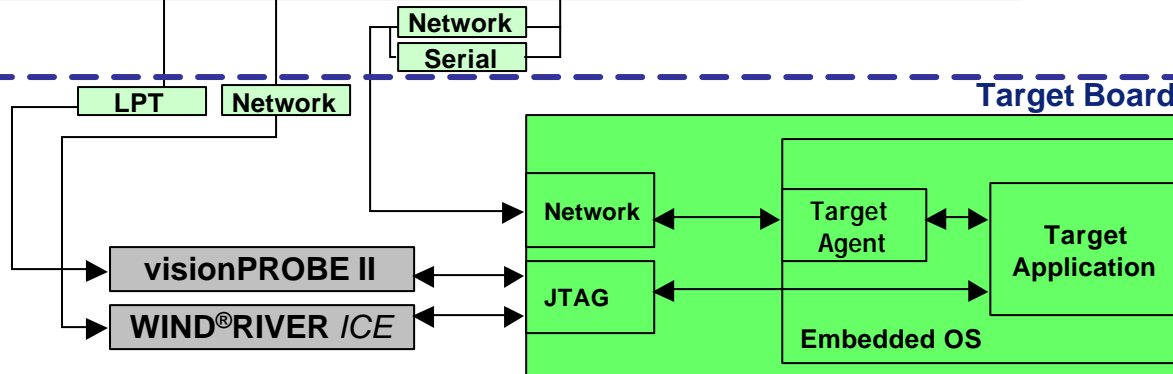


WIND RIVER

Host



Target



\* WR Extensions to Eclipse



# Workbench Components summary



WIND RIVER

- Eclipse basic
  - Advanced IDE Framework
    - Graphical integration
    - Functional integration
  - Generic IDE Functionality
  - Base Project System
  - Base Editor Framework
  - Base Debug Framework
- 3rd Party
  - Configuration Management / Version Control
    - Rational ClearCase
    - CM Synergy
    - PCVS
  - SlickEdit Full-Featured Editor
  - Rational XDE (UML)
- **Wind River added value**
  - **Static Analysis**
  - **Editor enhancements**
  - **Project System enhancements**
  - **Build System**
  - **Multi-X Debugger**
  - **Target Manager UI (for VxWorks and Linux)**
  - **VxWorks Kernel Configuration**
  - **Host Shell**
  - **Wind River Simulator**
  - **Wind River System Viewer (for VxWorks and Linux)**
  - **Compiler tool chain**  
**(Wind River tool chain & gnu tool chain)**



## What we will show you:

- Workbench GUI concept / look & feel
- Project handling
- Edit / Code Browsing
- Linux config / VxWorks config
- Target management with Workbench
- Run and debug an application



**Enjoy the Show!**