



Specialized Nios II Tools

Unlimited Design Options

Altera and its partners offer a broad catalog of specialized tools that work in concert with Nios® II development kits. These tools, ranging from sophisticated debuggers to specialized middleware software packages, give Nios II users more options in their own system development. With these tools, Nios II developers can accelerate their design process while meeting system performance and time-to-market requirements.

“Altera’s complete solution, including the Stratix Professional Edition of the Nios Development Kit, has been invaluable in allowing us to demonstrate our technology.”

Jonah Probell
 Founder & Principal Design Engineer
Ultra Data

“The standard GNU C compiler included with the Nios Development Kit made it extremely easy to port our system to Nios.”

Randy Clark
 Project Manager
Celestica

“The flexibility of the processor and ease-of-use of the development tools allowed us to significantly reduce development time.”

Graham Vesey
 Electronic Development Manager
Peak NDT Ltd.

Table 1. Integrated Development Environment (IDE) & Debuggers

Provider	Product	Function	Description
Altera	Nios II IDE	IDE	Included in all Nios II development kits; targets connection through Altera Joint Test Action Group (JTAG) cable or FS2’s ISA-NIOS II probe.
First Silicon Solutions (FS2)	ISA-NIOS II	Debug Hardware	Probe unit that provides external trace capture capabilities for Nios II IDE and Mentor Graphics’ code lab.
	N2-UPG1	Debug Enhancement	Enhanced debug package for Nios II IDE and Mentor Graphics’ code lab. Provides performance analysis, expanded trace, and increased breakpoint functionality.
Lauterbach Datentechnik	Trace32-ICD	Debugger	Graphical debugger that targets connection through Lauterbach’s PowerDebug hardware.
	PowerDebug	Debug Hardware	Provides USB- or Ethernet-to-JTAG debug connectivity for Lauterbach’s Trace32-ICD.
	PowerProbe	Debug Hardware	Provides logic analyzer or external trace capability for Lauterbach’s Trace32-ICD.
Mentor Graphics	code lab EDE	Editor	Enables project editing and tool-chain operation through Microsoft Visual Studio .NET.
	code lab Debug	Debugger	Graphical debugger that targets connection through Altera JTAG download cable or FS2’s ISA-NIOS II probe.

Table 2. Independent Middleware

Provider	Product	Function	Description
Interniche	Nichestack	Network Stack	Scalable, full-featured network stack (v4 and v5) and a complete suite of networking software for management, security, and web-based applications.
Open Source	Lightweight IP	Networking	Open-source, lightweight TCP/IP network stack. Provided for use with Nios II development kits

Table 3. OS/RTOS

Provider	Product	Description	Available Middleware
eSOL Co., Ltd.	PrKernelV4	Scalable μ TRON-compatible RTOS. Graphical configuration tool provided for Nios II IDE.	Network, File System
Express Logic	ThreadX	Scalable, high-performance, easy-to-use RTOS.	Network, File System, Graphics
KROS Technologies	KROS	Small, preemptive, multitasking RTOS with POSIX interface.	Network, File System
Mentor Graphics	Nucleus PLUS	Preemptive, multitasking kernel. Kernel-aware debugging available through code lab debugger. Support for μ TRON available.	Network, File System, Shell, OSEK
Micrium	MicroC/OS-II	Scalable, preemptive, multitasking RTOS. Graphical configuration tool integrated into Nios II IDE. Evaluation license included in Nios II development kits.	Network, File System, Graphics, Monitoring
MiSPO	NORTi	Scalable μ TRON-compatible RTOS.	Network, File System, Graphics
Open Source	ECOS	Scalable operating system. Support available through SLS Corporation (see Table 4). Available for free download from www.niosforum.com .	Network, File System
Open Source	μ CLinux	Non-MMU version of Linux operating system. Support available through Microtronix (see Table 4). Available for free download from www.niosforum.com .	Network, File System

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Table 4. Company Contact Information

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Additional Information

For the latest information on third party tools for the Nios II processor, please visit www.altera.com/products/software/partners/embedded/emb-partners.html.