

Nucleus for LEON



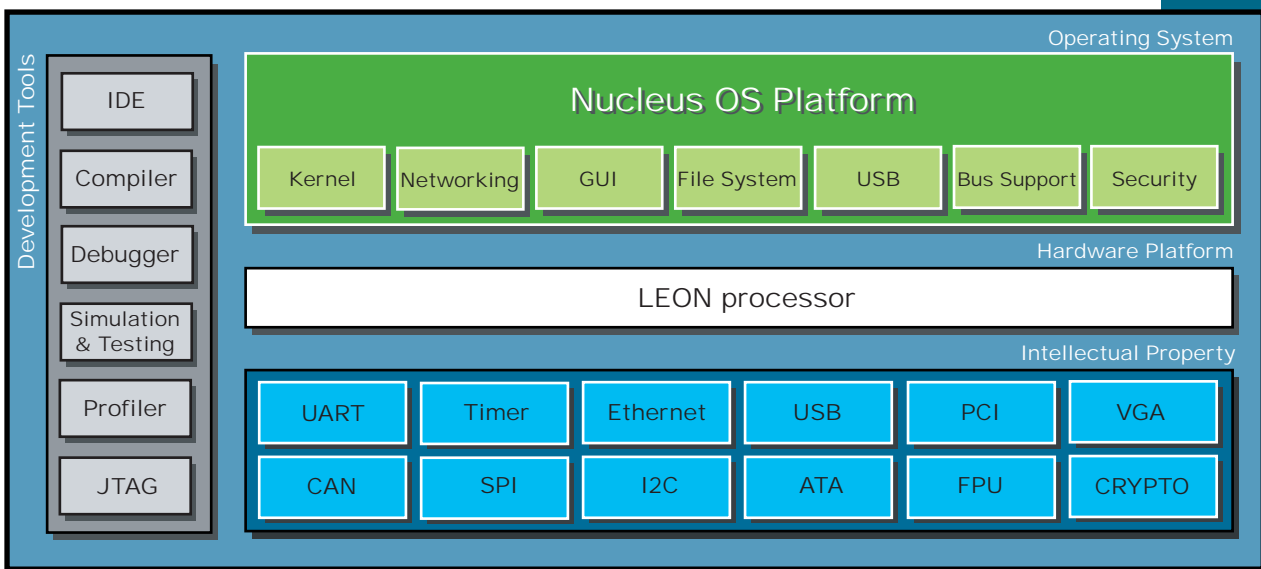
Introduction

Nucleus is a real time operating system developed by Mentor Graphics which offers a rich set of features in scalable and configurable manner.



Aeroflex Gaisler provides the LEON architectural port and BSP for Nucleus. LEON3 is a configurable high performance 32-bit SPARC V8 processor particularly suitable for System-on-Chip (SoC) designs.

In the Nucleus-LEON BSP drivers for all standard on-chip peripherals are included. Development can be done on Linux or Windows hosts and the port and BSP is provided in full source code.



Nucleus-LEON features

- Support for LEON3 plug and play
- Support for systems with and without FPU
- Support for non-windowed (flat) register model
- Drivers for standard on-chip peripherals (UART, Timer, Interrupt controller)
- Network drivers for GRETH (10/100), GRETH_GBIT (10/100/1000) and LAN9C111 (10/100)
- TCP offloading and zero copy TCP/IP stack (using GRETH GBIT MAC)
- USB 2.0 host controller (EHCI and UHCI) driver
- USB 2.0 function controller driver
- POSIX API
- C++ support
- Small footprint
- Development on Linux and Windows hosts
- GNU toolchain

Thanks to the Nucleus-LEON plug and play support there is no need for different BSP configurations for different LEON3 SoCs. The used configuration (address map and interrupt assignment) is automatically detected by the BSP.

Development

Gaisler Research provides the following development tools for Nucleus-LEON development

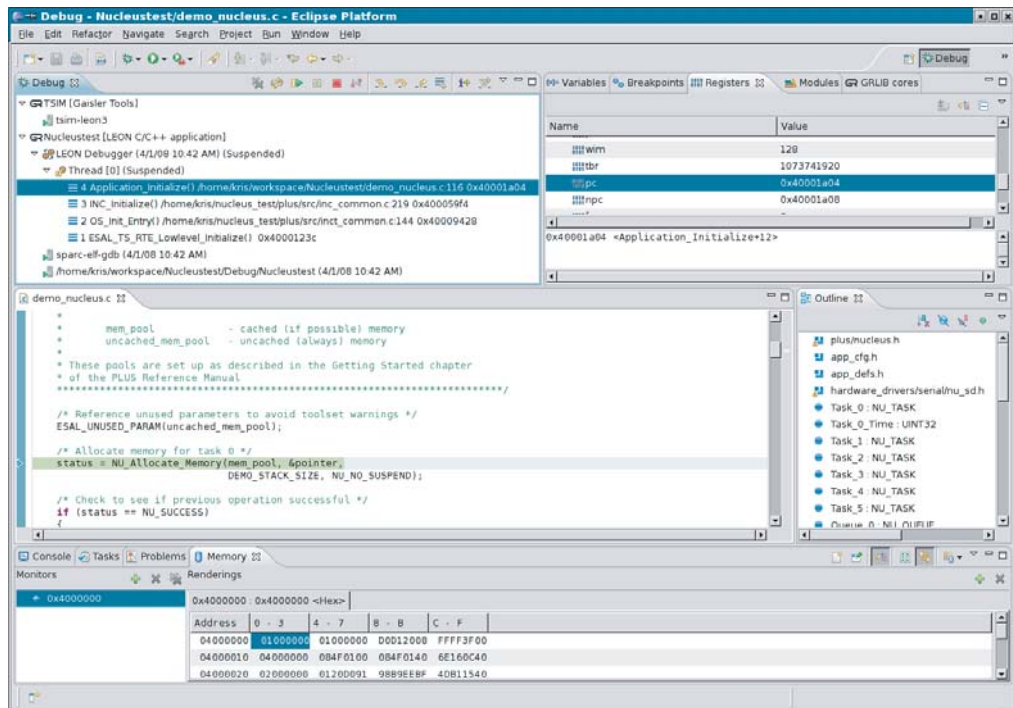
- GRMON debug monitor
- TSIM cycle true simulator
- LEON Integrated Development Environment
- GNU toolchain

Nucleus-LEON uses the popular GNU toolchain including the GCC compiler and the GDB debugger.

The GRMON debug monitor provides non-intrusive debugging of software running on the real target hardware.

For simulation the cycle true simulator TSIM is provided. Both GRMON and TSIM features trace buffers, profiling, disassembler, source level debugging with GDB and much more.

For Nucleus application development the LEON Integrated Development Environment provides a modern full featured C/C++ IDE which supports debugging either through TSIM or GRMON.



Availability

The Nucleus-LEON BSP is immediately available for LEON3. The development environment runs on Linux and Windows hosts. For more information see www.gaisler.com.

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