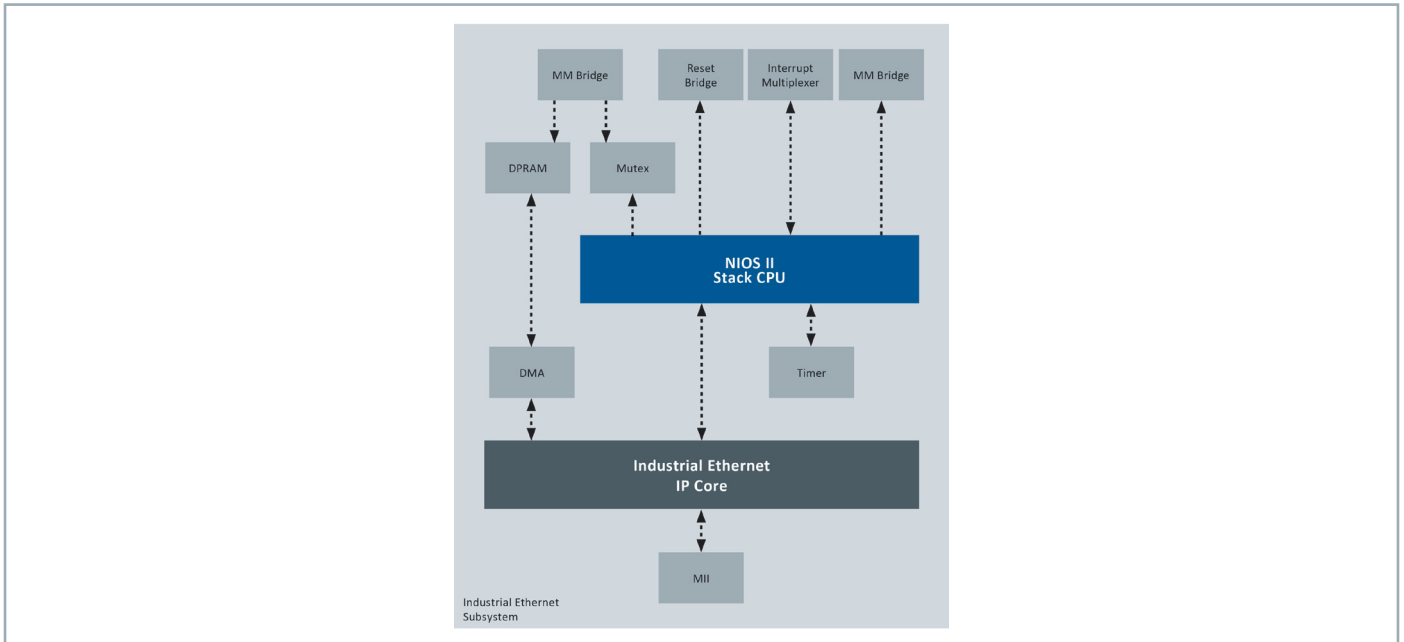


Softing Protocol IP - PROFINET

Simplifying PROFINET RT and IRT Design for Devices Using Altera FPGA

Softing Protocol IP is a combination of IP Cores and Industrial Ethernet device protocol software designed to offer all required communication capabilities for an implementation based on the Altera FPGA. It provides an identical Application Programming Interface (API) for integrating various protocols into one hardware platform.



Easy and Inexpensive Development of PROFINET Field Devices Using Altera FPGAs

- Ready-to-use PROFINET Qsys system
- Demo application included
- Future versions available for free download

One API For Quick Integration

- Simple Device Application Interface (SDAI) designed as efficient protocol abstraction layer to use different protocols with same application
- PROFINET RT/IRT, EtherCAT, EtherNet/IP, POWERLINK and Modbus TCP using the same API
- Single and dual processor systems supported

Improved Performance

- Minimum I/O data delay between physical layer and application
- Process data processed by DMA logic
- Guide to efficient application programming included

Standard IT Support in Parallel with Industrial Ethernet

- Direct forwarding of IP Packets to application
- No need to change existing IP structure
- Socket interface for simple integration

Technical Data

PROFINET RT	Tested and Described IP Core Configurations	<ul style="list-style-type: none"> Switch IP Core with 2 external ports and 1 internal port 1 Nios II IP core for processing the protocol DPRAM interface to application processor (FPGA Internal or External)
	Switch Clock	125 MHz
	Functionality	<ul style="list-style-type: none"> PROFINET Device According Specification V2.3, Conformance Class B Media Redundancy Client Multicast Provider and Subscriber
	Shared Devices (Supported Number of PROFINET Controllers for Simultaneous Communication)	Yes (2)
	Number of Connections per PROFINET Controller	2
	Maximum Size of I/O Data Per Communication Relationship	1.024 Bytes
	Support of Profiles	Yes
	Operating System	eCos V3.0
	API	Simple Device Application Interface
	PROFINET IRT	Requirements and Supported Quantity Structures
	Functionality	<ul style="list-style-type: none"> PROFINET Device According Specification V2.3, Conformance Class C PTCP, Relative Forwarder, Fast Forwarding, cycle time down to 250 µs, legacy support for Siemens drive products (already available) Dynamic Frame Packing, Media Redundancy for Planned Duplication (MRPD), cycle time < 250 µs (in preparation)

Scope of Delivery

Qsys Component	Downloadable from Softing website
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Additional Products and Services

KEL-AB-010001	Altera Cyclone V E FPGA Development Kit and MAX V licensing board with 8 hours of technical assistance
SIA-YY-012501	Integration workshop for implementing field devices based on Altera Cyclone FPGA family
SIA-YY-012503	Integration support provided by e-mail or phone
TRA-PN-TECH	Training "PROFINET – Technology"
TRA-PN-CERTENG	Training "PROFINET - Certified Engineer"



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