

Introduction

The LogiCORE™ 10-Gigabit Ethernet MAC core is a single-speed full-duplex 10 Gbps Ethernet Media Access Controller (MAC) solution that enables the design of high-speed Ethernet systems and subsystems.

Features

- Designed to 10-Gigabit Ethernet specification IEEE 802.3ae-2002
- Choice of external XGMII or internal FPGA interface to PHY layer
- Cut-through operation with minimum buffering for maximum flexibility in client-side interfacing
- Supports Deficit Idle Count for maximum data throughput; maintains minimum IFG under all conditions and provides line rate performance
- Configured and monitored through a microprocessor-neutral management interface
- Comprehensive statistics gathering with statistic vector outputs
- Supports flow-control in both directions
- MDIO STA master interface to manage PHY layers
- Extremely customizable; trade off resource usage against functionality
- Available under SignOnce license program
- Supports VLAN, jumbo frames, and WAN mode

LogiCORE Facts				
Core Specifics				
Device Family	Virtex™-II, Virtex-II Pro, Virtex-4			
Speed Grades	-5 for Virtex-II -5 for Virtex-II Pro -10 for Virtex-4			
Resources Used ⁽¹⁾	Slices	LUTs	FFs	Block RAM
	3777	3703	4211	0
Special Features	Delivered through Xilinx CORE Generator™			
Provided with Core				
Documentation	Product Specification User Guide Getting Started Guide			
Design File Formats	EDIF and NGC netlist			
Constraints File	UCF			
Verification	VHDL test bench Verilog test fixture			
Example Design	VHDL and Verilog			
Design Tool Requirements				
Xilinx Implementation Tools	ISE™ 8.1i			
Simulation	Mentor ModelSim® Cadence® IUS			
Synthesis	XST			
Support				
Provided by Xilinx, Inc. @ www.xilinx.com/support				

1. Numbers are approximate for default configuration. See "[Device Utilization](#)" on page 19 for a complete description device utilization by configuration.