



DIFI v1.1

GEON
Technologies, LLC

DIFI v1.1 is Geon Technologies' Intellectual Property (IP) core for IEEE-ISTO Std 4900-2021 "Digital IF Interoperability Standard" compliant communications on a programmable logic device. DIFI provides standardized communications across the system while remaining agnostic of the transport backbone used (UDP/IP, PCIe, Aurora, etc).

Supported Features

- DIFI v1.1 packet parsing and encapsulation
- Multi-channel implementations for high-rate data using multiple DIFI/UDP/IP stacks (UDP/IP core available at an additional cost)
- Multi-stream implementations for low-rate data using a single DIFI/UDP/IP stack and multiple stream identifiers
- Standard AXI4 interfaces: AXI4-Stream for data interfaces and AXI4-Lite for register control

Options

The core is available in two delivery configurations:

- **Encrypted:** All source code is encrypted except for a reference testbench and all constraints files
- **Source Code:** All source code may be viewed and changed

License

- **Site-wide:** The core may be used on all projects within the organization

Complementary IP and HDL module offerings

- **UDP/IP FPGA IP core (inquire for more details):**
 - Perform parsing and encapsulation for interfacing with an Ethernet IP core
- **Timed Addition Modules (inquire for more details):**
 - Many users require timed operations on their FPGAs for scheduling transmit data or timestamping receive data. These Timed Addition

Modules are available as an add-on purchase to the DIFI FPGA IP core, and they are delivered as source code with a site-wide license.

Included with Purchase

- Embedded C++ software utility for register control and Bitbake recipe to cross compile with Yocto or Petalinux
- Host C++ packet processing software for communicating with the core over a UDP/IP network
- Wireshark plugin for packet analysis over a UDP/IP network
- Reference project for one of the following platforms:
 - Picozed 7030 FMC2 (Zynq-7000) with 1GbE
 - ZCU102 (Ultrascale+) with 10GbE
 - ZCU111 (Ultrascale+) with 10GbE
 - ZCU208 (Ultrascale+) with 10GbE
 - ZCU216 (Ultrascale+) with 10GbE
 - ZCU111 (Ultrascale+) with 100GbE

Terms & Conditions

- Geon will fix functional flaws in the core for 1 year after date of purchase at no cost. Support that is not related to a functional flaw or all support beyond 1 year after date of purchase can be provided at an hourly consulting rate.

[Contact Us](#) for a quote today!