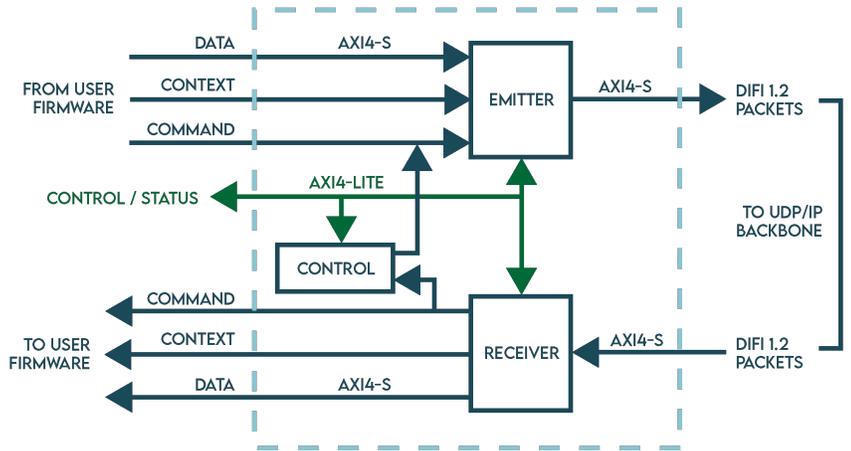


DIFI v1.2

PRODUCT OVERVIEW

DIFI v1.2 is Geon Technologies' Intellectual Property (IP) core for IEEE-ISTO Std 4900-2021 "Digital IF Interoperability Standard", Version 1.2.0, August 23, 2023 compliant communications on a programmable logic device.

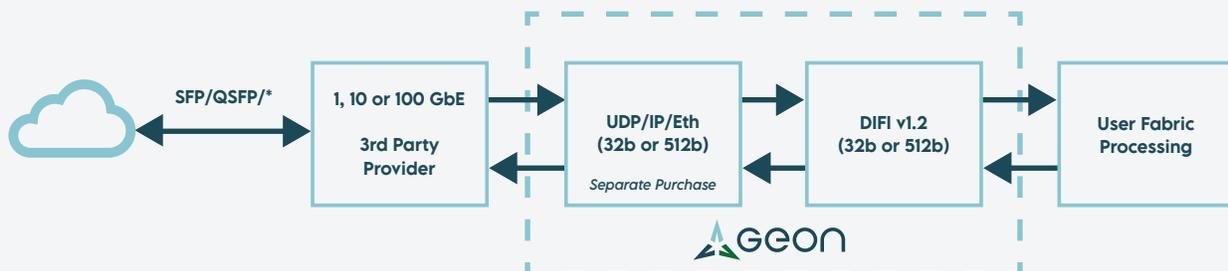
DIFI provides standardized communications across the system while remaining agnostic of the transport backbone used (UDP/IP, PCIe, Aurora, etc).



SUPPORTED FEATURES

- ✓ DIFI v1.2 packet parsing and encapsulation for all Information Classes and packet types:
 - Basic Data Plane
 - Version Flow
 - Data Plane Plus Flow Control
 - Data Plane Plus Flow Control, Real Time TSF
- ✓ Support for VITA49.2 Controller and Controllee roles
- ✓ Standard AXI4 interfaces: AXI4-Stream for data interfaces and AXI4-Lite for register control
- ✓ FPGA vendor independent
- ✓ Purchase options for 32 bit and 512 bit configurations for targeting 1 GbE, 10 GbE, and 100 GbE backbones
- ✓ See the Product Guides ([32 bit](#) and [512 bit](#)) for detailed port descriptions, register maps, and limitations

TYPICAL APPLICATION



PRODUCT DETAILS

CORE PART NUMBERS

geon_ip_00.00.04
32 bit (1 GbE / 10 GbE backbone)

geon_ip_00.00.14
512 bit (100 GbE backbone)

DELIVERY

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

ADDITIONAL SUPPORTED FEATURES

- ✓ 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

INCLUDED WITH PURCHASE

- ✓ Wireshark plugin for packet analysis over a UDP/IP network
- ✓ 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
- ✓ 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