Data Sheet Drut FIC – 1000

# Drut FIC 1000



# **Key Benefits**

- Latency Direct connect, all photonic fabric provides the lowest possible latency allowing valuable machine resources to be directly connected in a machine cluster
- Distance Photonics eliminates the distance and physical locality challenges in the data center
- Complexity Removing stacked hierarchies of switches, protocols and overlays is the most direct way to remove complexity
- Efficiency Grouping resources via direct connect around workloads resolves the stranded resource challenge
- Security Workloads do not transgress over racks, spines and cores.
- OPEX Increased resource efficiencies means getting more from less: Less power, less cooling, less space
- Better TCO By decoupling the resource upgrade path from server upgrade path, users have a better fidelity of choice when and what to upgrade.

Drut Fabric Interface Card 1000, is our first generation photonic fabric card designed for PCIe Gen 3. The card is designed to operate in one of two modes: Initiator Fabric Interface Card (iFIC) or Target Interface Fabric Card (tFIC).

In the iFIC mode the card is intended to be placed in the server. It requires a full length / full height PCIe Gen 3 slot. In the tFIC mode, the card is designed to be placed in Drut PRU 1000 or other compatible PCIe resource chassis. Each FIC has four QSPF28 pluggable optic cages supporting NxQSFP28.

### FIC 1000 Use Case Diagram

The following diagram illustrates how the iFIC 1000 is connected to the fabric and the existing network hierarchy. Each iFIC 1000 can use 1 to 4 optical ports. Best practice recommends using 2 or 4 of the optical ports. These ports will be connected to the photonic fabric using single mode fiber. The Photonic Resource Unit will have 1-2 tFICs connected to the photonic fabric. The Drut Fabric Manager will build a resource pool and allow for the creation of machines by attaching and detaching resources.



#### **Ordering Information**

Product:	FIC 1000
Code:	DRT-HW-iFIC-1000
	DRT-HW-tFIC-1000
Description:	Fabric Interface Cards

#### **Complimentary Items**

Product:	PRU 1000
Code:	DRT-HW-PRU-1000
Description:	Photonic Resource Unit (PRU)
Product:	PXC – 32 Port
Code:	DRT-HW-PXC-FABRIC-32P
Description:	Photonic fabric including switch,
	cables and optics.
Product:	PXC – 48 Port
Code:	DRT-HW-PXC-FABRIC-48P
Description:	Photonic fabric including switch,
	cables and optics.
Product:	PXC – 64 Port
Code:	DRI-HW-PXC-FABRIC-64P
Description:	Photonic fabric including switch,
	cables and optics.
Product:	PXC – 96 Port
Code:	DRT-HW-PXC-FABRIC-96P
Description:	Photonic fabric including switch,
	cables and optics.
Product:	PXC – 144 Port
Code:	DRT-HW-PXC-FABRIC-144P
Description:	Photonic fabric including switch,
·	cables and optics.

# FIC 1000 Use Cases

The FIC 1000 is used to form the fabric interface from servers to the Photonic Resource Unit. Typical uses cases for the FIC 1000 are:

- AI/ML training and inference workloads
- Photonic HPC clusters
- GPU farms for AI or gaming
- FPGA farms for low latency trading
- High performance private cloud for IaaS



# FIC 1000 Specifications

PCIe Gen	3.0
Optical Interfaces	4xQSFP28 Pluggable Cages
Serdes Speeds	Configurable to 12.5G, 25G, 50G, 100G
Dimensions	Full length, Full Height card
	11.5" length, 4" height
Power	75w