Full Programmable P4 based FlowDirector F Series in Next-Generation Networks

The fast deployment of tera-scale internet and LTE/5G networks worldwide creates numerous challenges for network operators to meet the growing demand to monitor, understand, identify and diagnose the issues in the networks. A reliable visibility infrastructure is critical to gain real-time and continuous insight to improve the network performance, security, and reliability.

The ground truth is that large-scale networks are unique for a good reason. They are purposefully architected with a complex set of objectives, which require the Network Packet Broker, as one of many pillars in the visibility infrastructure to be flexible, performant, and evolutionary.
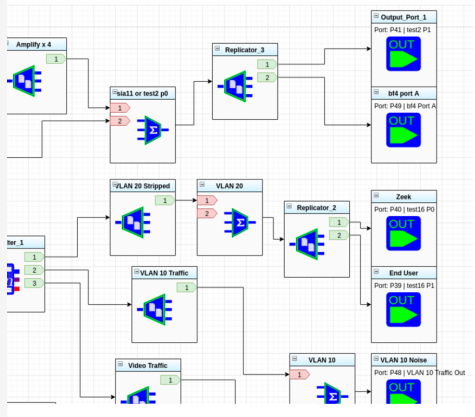
The traditional fixed-function NPB imposes a severe limitation on the tunneling protocols, network topologies, and filter capabilities. As a result, the new visibility features that are critical to network operators often take too long to implement. To overcome this limitation, leveraging the latest silicon innovations and the breakthrough P4 language, InfiniCORE's full programmable F series NPB provides unprecedented flexibility with unmatched line-rate performance in the network packet processing.

There are three product members in the F series. All three models provide worry-free line rate throughput of 1.2Tbps, 3.2Tbps, and 6.4Tbps respectively. With InfiniCORE's Visibility Studio to provide a full data path design environment known as the NextIO Design Environment, the F series becomes an easy-to-use and feature-rich visibility powerhouse.

Product Models

Model	Form Factor	Traffic Ports		Traffic Port Breakout Capability
		Count	Type	
680-F	1U	48	10G/25G SFP+/SFP28 Compatible	NA
		8	40G/100G QSFP+/QSFP28 Compatible	8 QSFP28 to 32 SFP28
3200-F	1U	32	40G/100G QSFP+/QSFP28 Compatible	32 QSFP28 to 128 SFP28
6400-F	2U	64	40G/100G QSFP+/QSFP28 Compatible	64 QSFP28 to 256 SFP28

FlowDirector -F Series Main Functions and Features

	Features	Benefits
Advanced Network Packet Broker functionalities	• Packet replication up to 1:32 • Packet aggregation across all ports • Support VLAN, MPLS, VNTag, Cisco Fabric Path, VxLAN, GTP and ERSPAN functions • Rich filter functions for fields found in VLAN, MPLS, Ethernet/IP/TCP/UDP, VxLAN, GTP, ERSPAN and Inner IP/UDP/TCP; • Load balancer on L3 and L4 fields found in outer header, VxLAN/GTP header or inner header; • Strip VLAN/MPLS/VNTag/Cisco Fabric-Path Header/VxLAN/GTP/ERSPAN; • VLAN Tag insertion, port tagging function; • Packet slice and timestamping; • Virtualwire for lossless cross connect and media conversion applications	Fully programmable purposefully developed P4 data path optimized for Visibility Applications for all traffic ports.
High Performance Software Defined Flow Manipulation Domains	Innovative Flow Domains provides the best flow manipulation with functional isolation for inline and/or offline tap, traffic aggregation, traffic replication, filter, tag and load balance applications.	Ideal for enterprises and service providers to create application specific data paths suited for their network visibility applications.
Integrated Lossless Connection Matrix over 10Gb, 25Gb, 40Gb and 100Gb Interfaces	FlowDirector –F series provides an innovative Virtual Wire technology that can be used to cross connect from any port to any port with complete isolation and lossless traffic forwarding.	Virtual Wire Technology is ideal to be used in lab automation applications to cross connect ports with different speeds and media types without rewiring the cables.
Innovative, State of the Art, Web Based Management Framework	FlowDirector –F series has native state-of-the-art HTML 5 Web based user interface that can be accessed from any standard based web browser.	Access the management interface from anywhere any device that is equipped with a modern browsers such as Chrome, Firefox, Safari and Internet Explorer.
Deep insights into the traffic with the Integration with FlowMagic appliance	The FlowDirector -F series can be deployed as a capture front end to the InfiniCORE FlowMagic Visibility appliance to provide unprecedent traffic insights, flexibility, performance and port densities for network monitoring and visibility applications	Provides the power of extensibility and flexibility in a software defined environment.
High Reliability, Cost Effective and Green Operation	Leveraging the latest generation processor and switch technologies, FlowDirector –F is power efficient and equipped with redundant power supplies and hot serviceable fans.	• Reduce CAPEX and OPEX • High Availability by Design