



# FlowDirector-640P

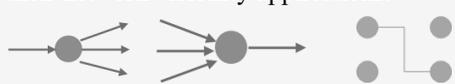
48x 1Gb/10Gb/25Gb SFP/SFP+/SFP28 and 6x 40Gb/100Gb QSFP+/QSFP28 Ports Lab Automation and Network Packet Broker

## FlowDirector Product Family Overview

InfiniCORE Networks FlowDirector product family is designed to help network administrators to add fabric visibility into their networks. The FlowDirector makes it easy to tap, aggregate, replicate, tag, strip, filter and load balance traffic. With FlowDirector, network administrators can deploy monitoring devices on the fly without the need for SPAN ports. The industry leading InfiniCORE visibility operating system integrates a web based UI that provides a software defined flow domain designer to ease the device configuration for network administrators.

The FlowDirector-640P is empowered by state of the art silicon technology to provide 48 SFP/SFP+/SFP28 ports that are capable of operating at 1G, 10G and 25Gbps; Additionally, FlowDirector-640P provides six QSFP+/QSFP28 ports that can be used to connect to high speed 40Gbps and 100Gbps links. The FlowDirector-640P provides line rate 3.6Tbps operation over all interfaces even for the smallest packet size.

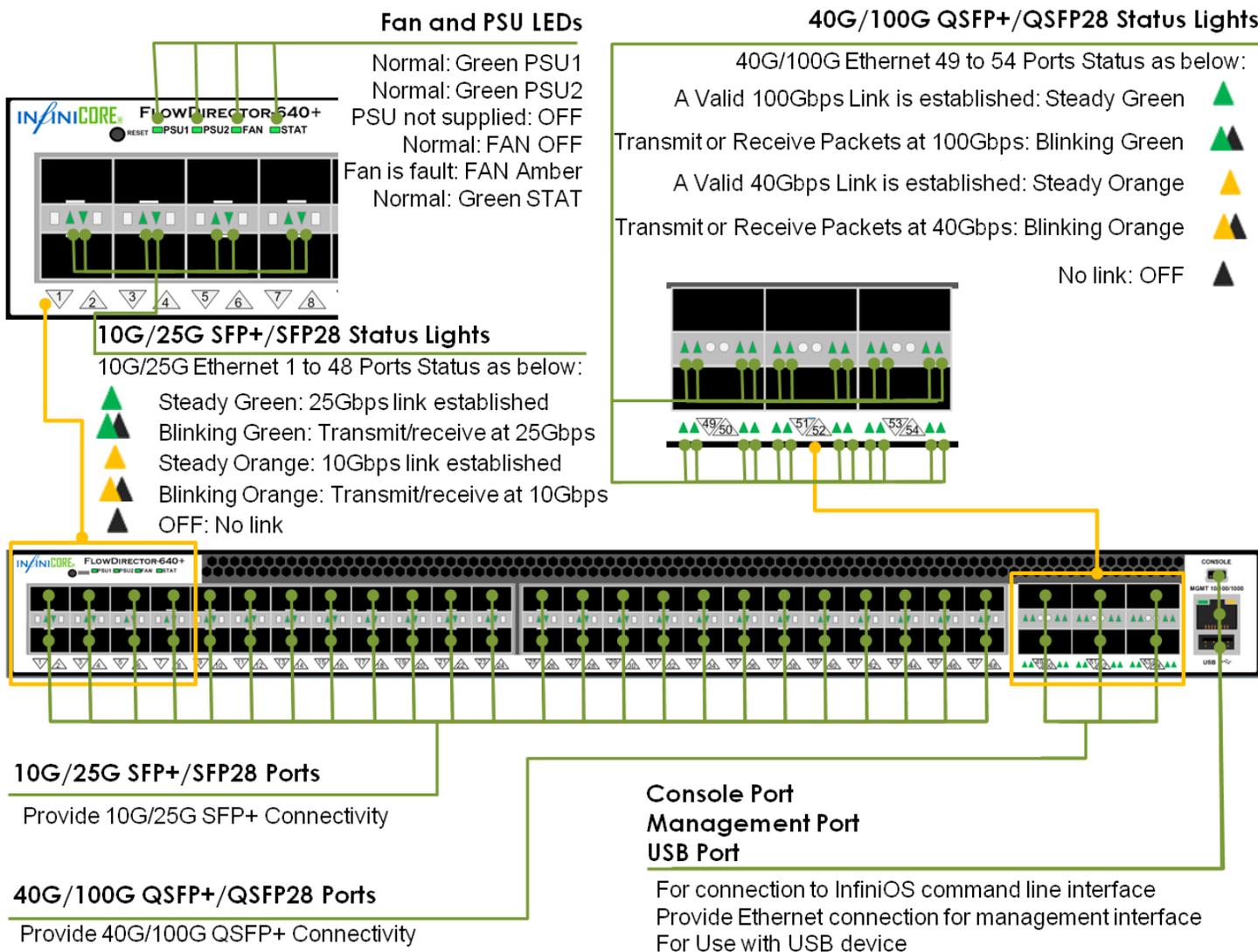
## Main Features and Benefits

	Features	Benefits
<b>Unprecedented Line Rate Packet Processing capability Over 54 Traffic Ports</b>	Up to 3.6Tbps of hardware ensured line rate packet operation over 48 1G/10G/25G SFP/SFP+/SFP28 ports and 6 40Gbps/ 100Gbps QSFP+/QSFP28 ports.	Provides the best connectivity to wide variety of networks; Abundant network interfaces for future expansion; Worry free line rate operation.
<b>High Performance Software Defined Flow Manipulation Domains</b>	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. 
<b>Integrated Lossless Connection Matrix over 1Gb, 10Gb, 25Gb, 40Gb and 100Gb Interfaces</b>	The FlowDirector 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. 
<b>Innovative, State of the Art Web Based Management Framework</b>	The FlowDirector family 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 with any device that is equipped with a modern browsers such as Chrome, Firefox, Safari and Internet Explorer. 
<b>High Reliability and Availability; Cost Effective and Green Operation</b>	Leveraging the latest generation processor and switch technologies, the FlowDirector is power efficient and is equipped with redundant power supplies and hot serviceable fans.	<ul style="list-style-type: none"> <li>• Reduce CAPEX and OPEX</li> <li>• High Availability by Design</li> </ul>

## FlowDirector-640P External Interfaces Specification

Function	Compliance	Type	Quantity
<b>Tri-mode 1G/10Gb/25Gb Traffic Ports</b>	IEEE 802.3by Optical fiber, twinax, backplane 25 Gigabit Ethernet IEEE 802.3ae 10 Gigabit Ethernet IEEE 802.3aq 10GBASE-LRM IEEE 802.3by 25 Gigabit Ethernet	25G SFP28 Fiber Optics 25G SFP28 passive DAC 10G SFP+ Fiber Optics 10G SFP+ Passive DAC Cable 1Gb SFP Fiber/Copper Interface Module	48
<b>40Gb/100Gb Traffic Ports</b>	SFF-8436, SFF-8635 QSFP+ 40Gb port; QSFP28 100Gb Ports	QSFP+/QSFP28 Fiber Optics or QSFP+/QSFP28 DAC Cable	6
<b>LED For the System</b>	Power Module 1 Status LED Power Module 2 Status LED FAN Status LED STAT Status LED	Green/Amber Green/Amber Green/Amber Green/Amber	1 1 1 1
<b>LED For SFP+ Traffic Ports</b>	Combo LED for Link and Activity	Green/Amber LED	1 Per Port
<b>LED For QSFP+ Traffic Ports</b>	Combo LED for Link and Activity	Green/Amber LED	1 Per Port
<b>10/100/1000Mbps Management Port</b>	10/100/1000BASE-T Category 5, Category 5e, Category 6 UTP	Copper RJ-45	1
<b>Visible LED for RJ-45 Management Port</b>	LED for Link LED for Activity	Green/Orange LED Green LED	2
<b>Console Port</b>	115200 Baud 8 Bit Data No Parity 1 Stop Bit	Mini USB Type B	1
<b>USB Port</b>	USB 2.0 High Speed 480Mbps Port	USB Type A	1
<b>Air Flow and Fans</b>	PWM Controlled Long Endurance Fan	Front to Back Air Flow	4
<b>Redundant Power Supply</b>	Dual 550W High Efficiency 100-240V AC 50-60Hz Class I	1+1 Redundant Power Supply	2
<b>Rack Mount Kit</b>	19 Inch Rack Mountable	19 Inch Rack Mountable	1
<b>Chassis Dimension</b>	Height X Width X Depth (inches)	1.75 x 17.3 x 19	NA

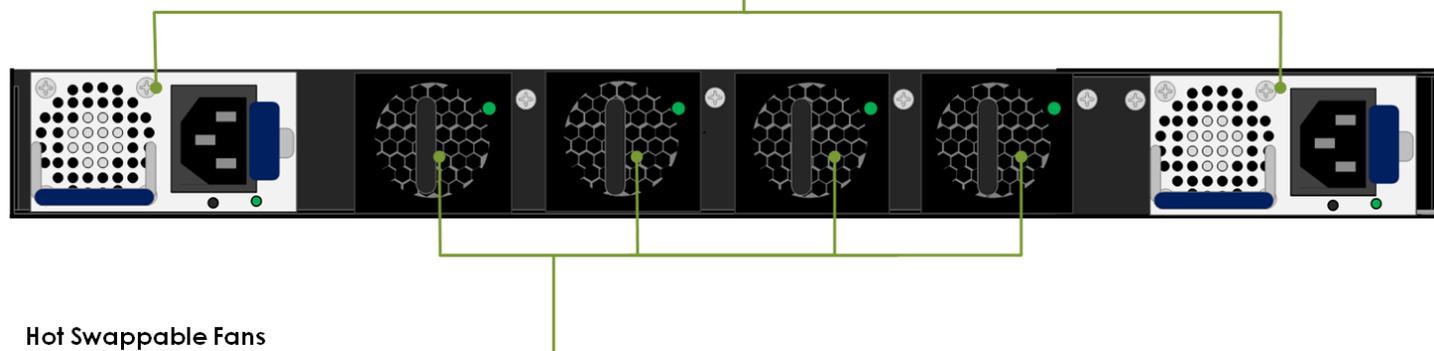
## FlowDirector-640P Front Panel Features



## FlowDirector-640P Rear Panel Features

### AC Power Supply

AC power connection for use with the supplied power cords



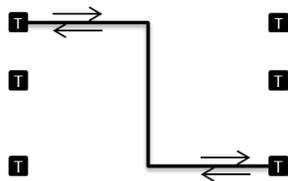
# FlowDirector-640P Flow Operation Domain

The data path of the FlowDirector can be configured through the data path designer with an advanced concept of Virtual Flow Domain. The FlowDirector-640P supports up to 10,240 Virtual Flow Domains which are isolated from each other, each can have its own data path, filter configuration, and load balancing rules, etc. Once activated, the configuration will be mapped and pushed into hardware.

By drag and drop the data path components into the design canvas, the FlowDirector-640P can be configured to support traffic tapping, inline processing, aggregation, replication, split & merge, tagging and load balancing.

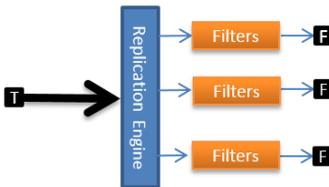
## Typical Flow Domains Supported by FlowDirector Flow Domain Designer

### Dynamic Virtual Wire



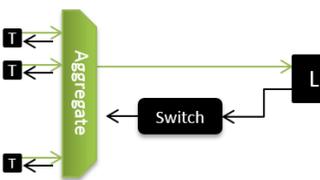
- Zero loss cross connect from any port to any port
- Drag-and-drop
- Ideal for lab automation and remote operation

### Traffic Replication with Filters



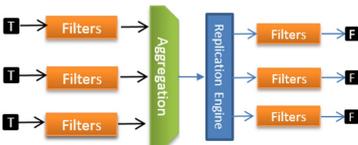
- Replicate traffic with filter support
- Lossless 1-to-N hardware based data path

### Traffic Aggregation with Reverse Switching



- Ideal for aggregating multiple switch links to go through a security or visibility point
- The reverse traffic will be switched based on MAC address learning

### Traffic Aggregation with Replication

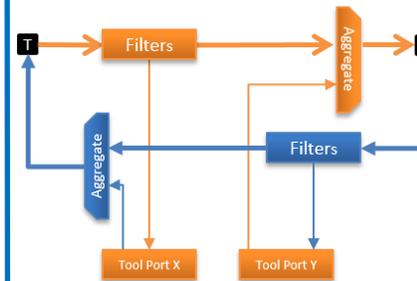


- Aggregate and replicate traffic
- Filter

### Wide Variety of Protocols Support

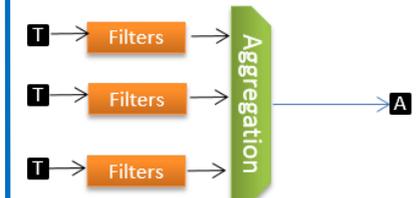
The FlowDirector-640P supports wide variety of protocols including the following: TRILL, MPLS, VPWS, Q-in-Q, MAC-in-MAC, IPv4, IPv6, GRE, ECMP, TCP, UDP, IGMPv1, IGMPv2, IGMPv3, VEPA+

### Inline Traffic Split and Merge



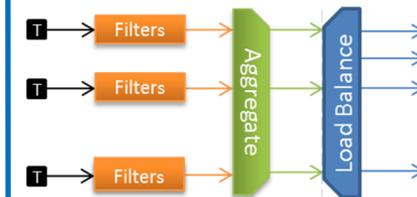
- Selectively redirect/drop traffic at line rate
- Merge traffic at line rate
- Ideal for DDoS defense or on demand traffic processing

### Traffic Aggregation with Filters



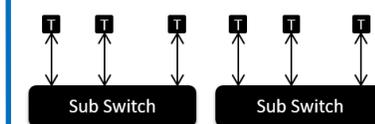
- Aggregate traffic to save downstream device ports
- Line rate filtering

### Traffic Aggregation And Load Balancing



- Aggregate traffic and load balance to downstream devices
- Line rate filtering
- Microflow load balancing engine

### L2/L3 Switch Mode



- Select sub set of ports and use as regular L2/L3 switch
- Line rate forwarding across all ports
- Jumbo frame support

## FlowDirector-640P Standard Peripherals

Part Name	Quantity
DB-9 to Mini-B USB Serial Console Cable	1
UTP Cat 6. Ethernet Cable	1
Rail Mounting Kit	1
CD (User Manual, software package)	0 or 1
USB System Recovery Thumb Drive	1 or Download

## FlowDirector-640P Physical and Environmental Specification

Item	Description
<b>Dimension</b> (Width x Depth x Height)	19 x 17.3x 1.75 (inches) 483 x 440 x 44 (millimeters)
<b>Net Weight</b>	19.5 (pounds) / 8.8 (kilograms)
<b>Environment</b>	Operating Temperature: 0° ~ 40° C (32° ~ 104° F) Non Operating Temperature: -40° ~ 70° C (-40° ~ 158° F) Humidity: 20 ~ 90% (Non-condensing)

## FlowDirector-640P Order Information

Please contact InfiniCORE regional distributors/resellers or InfiniCORE sales for further information.

Part Number	Traffic Ports	Port Specification	Software Package
<b>FDS-640Plus-R2</b>	48 SFP/SFP+/SFP28 + 6 QSFP+/QSFP28	48x 1G/10G/25G SFP/SFP+/ SFP28 Ports with DAC Support; 6x 40G/100G QSFP+/QSFP28	Standard InfiniOS Software Package

## Other Products In the FlowDirector Product Family

Part Number	Traffic Ports	Port Specification	Software Package
<b>FDS-240G-R1</b> <b>FDS-240G-R2</b> <b>(2 Redundant PSUs)</b>	24 SFP/SFP+ + 0 QSFP+	24x 1G/10G SFP/SFP+ Ports with DAC Support	Standard InfiniOS Software Package
<b>FDS-640-R2</b>	48 SFP/SFP+ + 4 QSFP+	48x 1G/2.5G/10G SFP/SFP+ Ports with DAC Support; 4x 40G QSFP+ Ports	Standard InfiniOS Software Package
<b>FDS-3200-R2</b>	32 QSFP+/QSFP28	32x 40G/100G QSFP+/QSFP28 Ports	Standard InfiniOS Software Package

## Accessories

Part Number	Port Specification
<b>QSFP-3M-QSFP-QSFP-DAC</b>	3 Meter 40Gb QSFP+ to QSFP+ DAC cable
<b>QSFP-3M-QSFP-SFP-DAC</b>	3 Meter 40Gb QSFP+ to SFP+ DAC cable