



# CORTINA

## Product Brief

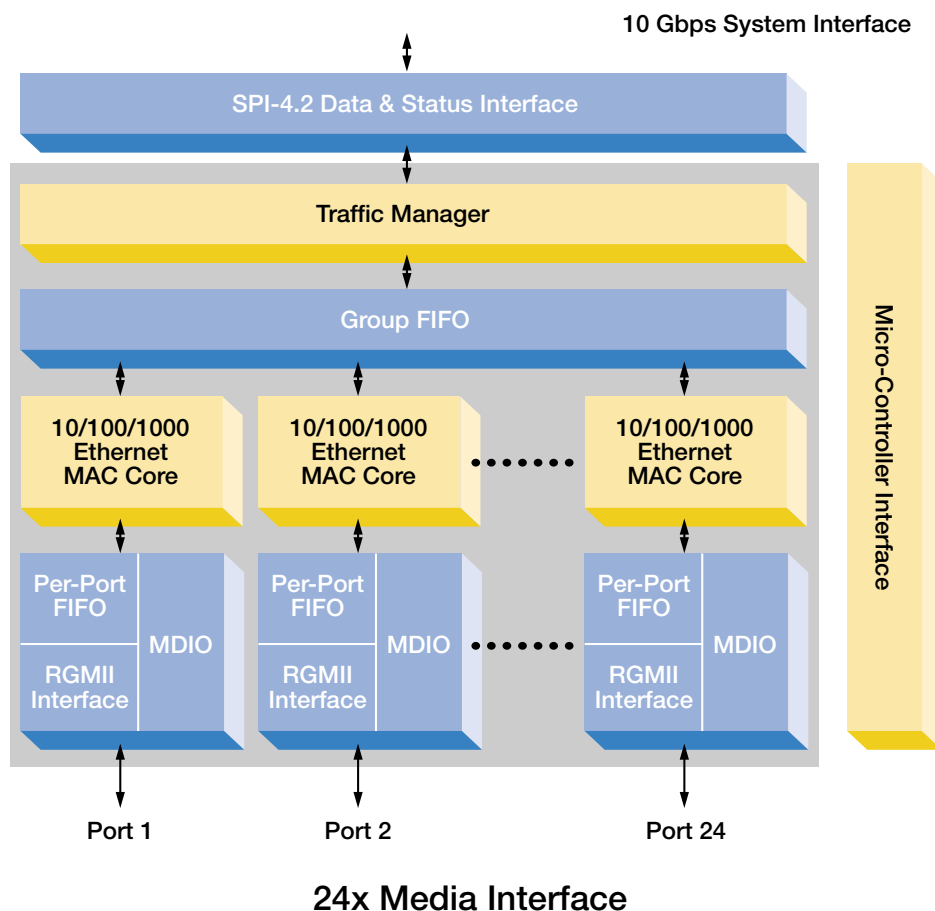
### Cortina Systems® IXF1024 24-Port 10/100/1000 Mbps Ethernet Media Access Controller

#### Product Description

The Cortina Systems® IXF1024 24-Port 10/100/1000 Mbps Ethernet Media Access Controller (IXF1024 MAC) is a highly integrated device that allows 2:1 oversubscription, which helps lower the cost per port. A SPI-4.2 system interface allows direct connection to network processors and forwarding engines. Advanced data path management techniques are used to funnel 24 Gigabits of bandwidth across a 10 Gbps system interface. This oversubscription of bandwidth is practical as client server networks rarely utilize full bandwidth at the network edge.

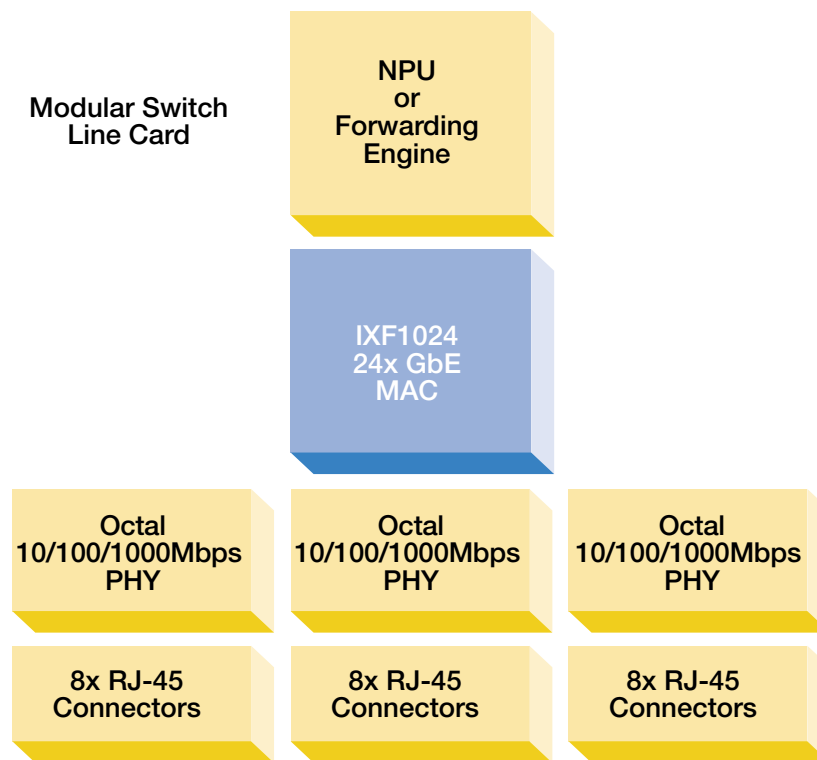
To implement oversubscription, Cortina Systems, Inc. (Cortina™) has included data path management functions such as rate limiting on a per port basis, priority queuing, IEEE 802.3\* compliant flow control, and programmable packet filtering. The device provides per port traffic statistics for performance monitoring, according to RMON RFC2819.

The IXF1024 MAC is implemented in 0.13  $\mu$  CMOS technology and is packaged in a 672 Ball Grid Array (BGA) and requires two supply voltages, 1.2 V for the digital core and 2.5 V for the I/O.



#### IXF1024 MAC Block Diagram

## Typical Application of the IXF1024 MAC



Features	Benefits
<ul style="list-style-type: none"> <li>• 24-Port 10/100/1000 Mbps Ethernet MAC</li> </ul>	<ul style="list-style-type: none"> <li>• High integration allows practical implementations of 24, 48 and 96-port line cards</li> </ul>
<ul style="list-style-type: none"> <li>• 2:1 Oversubscription</li> </ul>	<ul style="list-style-type: none"> <li>• Optimizes bandwidth usage at the network edge and reduces cost per port</li> </ul>
<ul style="list-style-type: none"> <li>• Advanced Data Path Management</li> </ul>	<ul style="list-style-type: none"> <li>• Enables oversubscription without switch congestion and packet loss</li> </ul>
<ul style="list-style-type: none"> <li>• Automatic Flow Control per IEEE 802.3*</li> </ul>	<ul style="list-style-type: none"> <li>• Standard compliant method for flow control that reduces control processor load</li> </ul>
<ul style="list-style-type: none"> <li>• Packet Filtering and Priority Queuing</li> </ul>	<ul style="list-style-type: none"> <li>• Allocates bandwidth to priority traffic</li> </ul>
<ul style="list-style-type: none"> <li>• SPI-4.2 system side interface</li> </ul>	<ul style="list-style-type: none"> <li>• Connects directly to network processors or custom forwarding engines</li> </ul>
<ul style="list-style-type: none"> <li>• Flexible CPU interface</li> </ul>	<ul style="list-style-type: none"> <li>• Supports a variety of 8/16/32-bit configurations</li> </ul>
<ul style="list-style-type: none"> <li>• Typical Power Consumption - 0.25 W per channel</li> </ul>	<ul style="list-style-type: none"> <li>• Allows line card implementations with high port count</li> </ul>

## Key Applications

- Modular Ethernet Switching Equipment at the Network Edge
- Enterprise and Multi-service Edge Routers

## Cortina in Communications

Cortina is a leading supplier of intelligent communication solutions through continuous innovations in advanced port processing and intelligent port connectivity to the Core, Metro, Access and Enterprise Market Segments. With our state-of-the-art high speed analog digital integration, we deliver a wide suite of products that address our customers'

performance, density and flexibility needs enabling faster time-to-market, longer time-in-market, and increased revenue opportunities. Working closely with our customers to understand their system requirements and anticipate their needs, we are creating the foundation ingredients for new generations of services.

\*Other names and brands may be claimed as the property of others.

