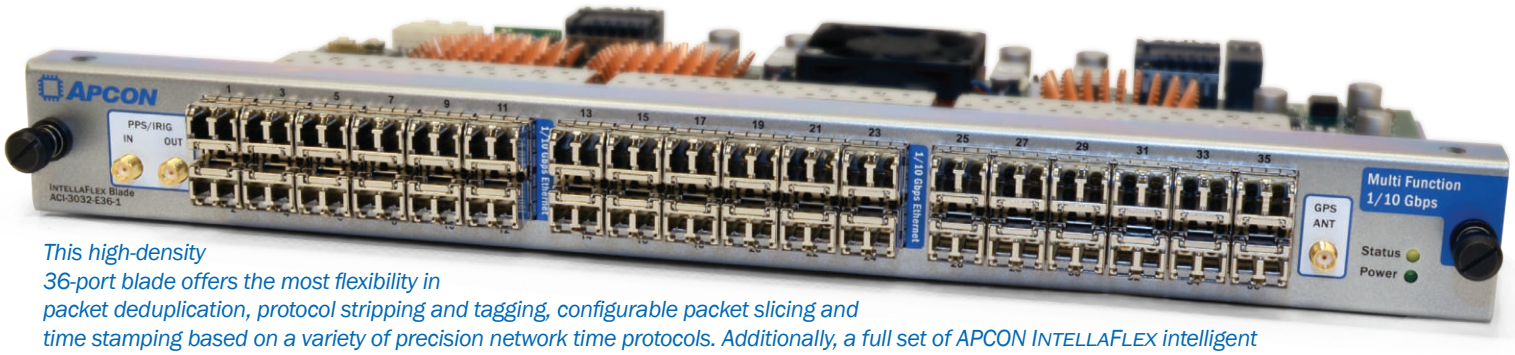
APCON IntellaFlex

36 Port 1G/10G Multi Function Blade

Highest port density advanced services blade with packet deduplication, protocol stripping, configurable packet slicing and sub-10ns time stamping – available on every port. The IntellaFlex Multi Function Blade fully supports all base IntellaFlex features such as packet aggregation, Multi Stage Filtering, and load balancing



This high-density 36-port blade offers the most flexibility in packet deduplication, protocol stripping and tagging, configurable packet slicing and time stamping based on a variety of precision network time protocols. Additionally, a full set of APCON IntellaFlex intelligent network monitoring features is included with no additional per-port licensing or additional modules required!

IntellaFlex Benefits

- Achieve 100% network visibility
- High port density saves rack space
- Reduce network monitoring CAPEX and OPEX
- Aggregate data streams
- Multi Stage Filtering for specific tool outputs
- Increased analysis tool efficiency
- Longer analysis tool lifespan
- Reduce data volume
- Maintain session integrity

Deduplication Features

- Line rate deduplication at 1G or 10G
- Multiple blades per chassis
- Selectable on Ingress and Egress

Packet Slicing Features

- Configurable byte offset
- Line rate packet slicing at 1G or 10G
- New CRC calculated and appended
- Increase tool processing efficiency
- Extends data recording time windows

Time Stamping Features

- Industry leading sub-10ns-level precision
- Supports GPS, PTP, IRIG-B, NTP
- Line Rate stamping at 1G or 10G in groups of 12
- Supports PPS for multi-blade and chassis synchronization
- 8-byte time stamp appended to packet payload
- Time stamping available on all ports

A modern data center is faced with a variety of network monitoring challenges. Duplicate packets create the largest challenge for IT and security personnel, including monitoring tool oversubscription, false positives, and inaccurate performance reporting. It is estimated that network monitoring traffic can consist of up to 55% duplicate packets that diminish tool bandwidth, reduce storage capability, and decrease tool effectiveness.

Product Description

The APCON IntellaFlex Multi Function Blade provides the industry's highest port density and flexibility – offering 36 ports of 1G/10G Ethernet with packet deduplication, protocol stripping, packet slicing, and time stamping with each service being selectable on every port. In addition, IntellaFlex features such as packet aggregation, Multi Stage Filtering, and load balancing allow this blade to be deployed in a standalone configuration, given its integrated aggregation function, or interspersed within a chassis of varying IntellaFlex blades. This blade also provides unprecedented scalability – up to 288 fully capable ports in an 8RU chassis.

Software Defined Services

The Multi Function Blade architecture is designed to be flexible to allow new services to be incorporated in the future with software upgrades – providing investment protection.

Real Time Packet Deduplication

As each packet passes through this blade on ingress or egress, it can be compared to all packets previously received through the same port within a configurable time window. If the packet is considered a duplicate of a previously received packet, the packet is dropped and not transmitted through the port.

Line Rate Packet Slicing

This IntellaFlex blade supports packet slicing on all packets. Network administrators may configure each port on the blade to truncate each packet that passes through the port to a preset number of bytes, with a new checksum (CRC) appended to the packet. All packet slicing is performed at Ethernet line rate, selectable either on ingress or egress.

Nanosecond-level Time Stamping

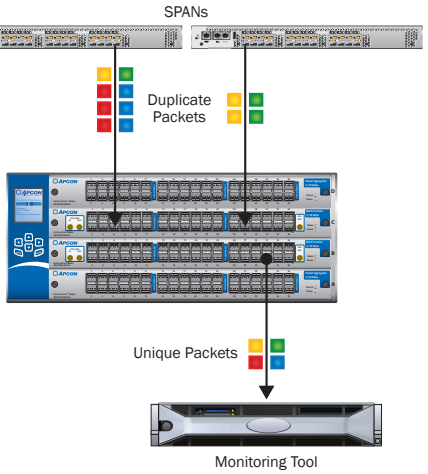
Each packet can be precisely time stamped to sub-10ns precision on ingress or egress, by universally coordinated time or system time. This feature allows precise reconstruction of packet flow history. Supported timing protocols include GPS, IRIG-B, PTP, and NTP. Timing may be synchronized among many Time Stamping blades and APCON switch chassis, utilizing PPS or IRIG-B.

Blade Functionality

Packet Deduplication

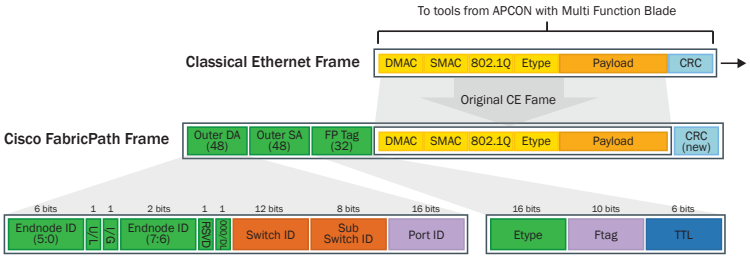
A key feature of APCON's INTELLAFLEX Multi Function Blade is the ability to perform packet deduplication on any traffic entering any port on the blade. Each succeeding packet is compared to prior packets received. If a packet is deemed to be a duplicate, it is discarded.

Even correctly configured SPAN ports may report between one and four copies of a given packet. Duplicate packets can represent as much as 55% of total network traffic from SPANs, multiple capture points, and aggregations. Duplicate packets overload tools and hinder effective network monitoring. Eliminating duplicate packets saves money and enhances network visibility.



Protocol Stripping

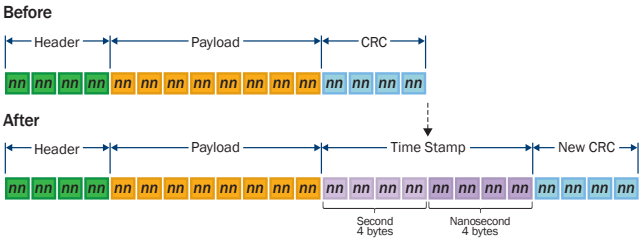
Protocols such as VLAN, VNTag, FabricPath, and others are used in various network configurations and encapsulate the Ethernet data to help build highly scalable Layer 2 multipath networks more efficiently. Such networks are particularly suitable for large virtualization deployments, private clouds, and high-performance computing (HPC) environments. However this high level protocol must be removed and the actual classical Ethernet frame must be sent to the monitoring tools so the correct analysis can be accomplished.



APCON's Multi Function blade performs protocol stripping on any port, up to 288 1G or 10G ports in an 8RU chassis.

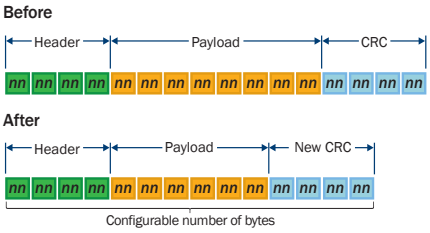
Time Stamping

As each packet traverses the port, the exact time of the first byte is recorded, and an 8-byte time stamp is applied between the packet payload and the closing checksum (CRC). The checksum is updated to reflect the new data.



Packet Slicing

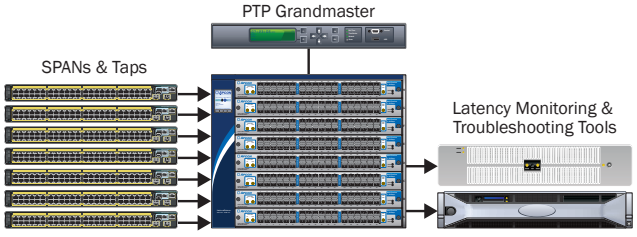
If packet slicing is enabled on a port, packets are sliced at a defined number of bytes to reduce bandwidth load at the monitoring device, or to remove sensitive data from the monitoring stream. A new checksum (CRC) is calculated and appended. Packet slicing is performed at line rate.



Network-Wide Timing Services

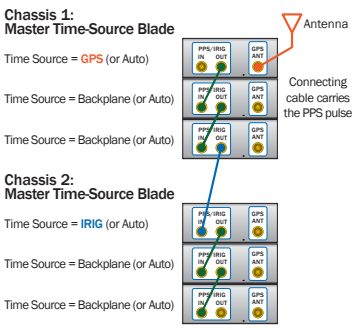
The INTELLAFLEX switch chassis offers up to 288 non-blocking 1/10G ports per chassis. With several chassis, you can monitor any number of points on your network with precise and accurate time stamping.

When used with an industry-standard latency monitoring tool, the INTELLAFLEX solution allows you to implement complete system-wide measurement and management of latency and timing impacts in real time from a single chassis.



Timing Synchronization

By connecting each blade through the front-facing connectors or over the switch backplane, you can synchronize any number of APCON switches to a common time source, whether that source is GPS or a PTP Grandmaster, increasing overall accuracy of time stamping across the complete solution.



Supported Features, Certifications, Hardware, Accessories

SFP+ Support
- 10GBASE-LR
- 10GBASE-SR

Supported Optical Fiber Standards
- Multimode 50µm
- Multimode 62.5µm
- Singlemode 9µm 1310nm
- Singlemode 9µm 1550nm

Authentication and Control Interfaces
- TACACS+
- LDAP
- RADIUS
- SNMPv3
- SSH
- HTTPS/SSL
- WEBXR GUI and WEBX GUI
- TITAN EP Multi-Switch Management

Environmental Ranges
- Operating temperature: 32° to 113° F (0° to 45° C)
- Storage temperature: -40° to 158° F (-40° to 70° C)
- Operating altitude: up to 10,000 ft (3,048 m)
- Non-operating altitude: up to 16,000 ft (4,877 m)
- Relative humidity operating: 10% to 85% (noncondensing)
- Relative humidity non-operating: 0% to 95% (noncondensing)

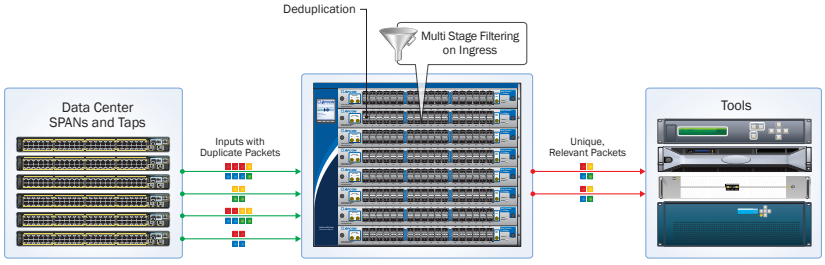
RoHS Compliance
- RoHS-compliant

Safety and Emissions Certifications
- UL/CB certified
- EMC/EMI tested and certified

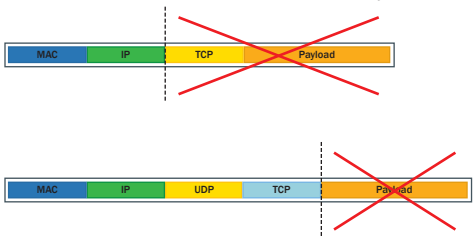
Common Use Cases

Monitoring for Performance Management
Any network monitoring system must deal with duplicate packets. In large scale and multi-site deployments you can eliminate duplicate packets by utilizing APCON's Multi Function Blade featuring packet deduplication, packet slicing, time stamping, aggregation, multicast, Multi Stage Filtering, and load balancing.

In addition, the ability to centralize, increase utilization, and re-use expensive analysis tools can result in 77% cost savings over traditional deployment schemes.

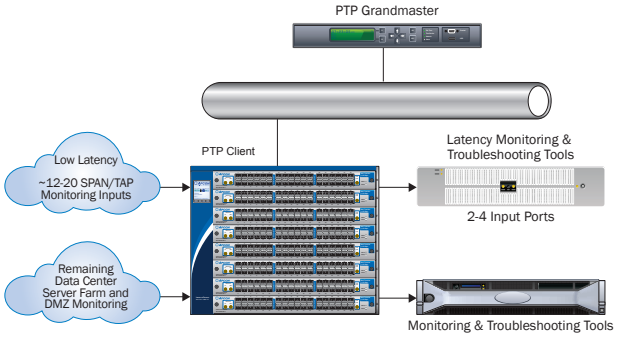


Monitoring for Security Management
Packet slicing with the INTELLAFLEX Multi Function Blade can remove confidential information to comply with regulatory requirements, and leave the packet headers intact. Legislation such as HIPAA, PCI and others demand data confidentiality, and stripping sensitive payload data from packets before they go to monitoring tools ensures that any sensitive data is not stored outside secure boundaries. Packet slicing increases tool utilization while reducing data volume, creating greater efficiency, security and decreases costs.



Monitoring for Latency Measurement
Core and co-located data centers choose APCON INTELLAFLEX for both latency monitoring and general purpose monitoring concentrated in a single scalable chassis. Data centers combine time stamping ports for latency monitoring inputs with INTELLAFLEX ports for latency monitoring outputs and general purpose monitoring activities. This INTELLAFLEX Multi Function Blade allows network engineers to facilitate analysis of traffic delays to diagnose physical or application performance issues utilizing latency and performance measurement tools.

Latency Monitoring in Data Center with GPS or PTP Time Synchronization



APCON INTELLAFLEX — 36-Port 10G Multi Function Blade

Specifications

Blade Specifications*

Description	• Multi Function Blade – Thirty-six 1G/10 Gbps Ethernet ports			
Blade Power	• 320 Watts per blade			
Protocols	• 1G/10Gbps Ethernet			
Optical Transceivers	• Single mode to multimode			
Rate Conversion	• Yes			
Deduplication Time Window	• 4 – 100 milliseconds based on Maximum Transmission Unit (MTU) size			
Packet Slicing	• Configurable byte range: 64 to 9600			
Physical Interfaces	• SFP+ (36)			
SFP+ Ports Support	• MMF 10GBASE-SR/SW, SMF 10GBASE-LR/LW			
Backplane Interfaces	• 36 × 10GBASE-R			
Timing Services	• GPS, IRIG-B, PTP, NTP			
Synchronization	• PPS-IN, PPS-OUT			
Services and Manageability	• CLI • Web interface	• LCD management • SNMP: v1, v2, v3	• RADIUS • LDAP, TACACS+	• SSHv2 • HTTP/HTTPS

* Specifications subject to change

Chassis Compatibility

Chassis Part Number	Description
• ACI-3144-XR	• Four blade
• ACI-3288-XR	• Eight blade

(XR designate extended capacity chassis)

Ordering Information

Model #	
• **ACI-3032-E36-1**	• INTELLAFLEX Multi Function Blade

APCON Solutions for Networks

APCON, Inc. is a pioneer in the field of switching technology and is globally recognized as the leading provider of packet aggregation switching solutions and Taps. Organizations in over 40 countries currently depend on APCON solutions in their network infrastructures. Customers include Fortune 500 companies, and networking and computer OEMs, as well as government and military organizations, telecommunication and service providers, financial services firms, and medical companies.

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