IntellaFlex
HyperEngine Packet Processor

FEATURES

- Advanced packet processing solutions
- High performance up to 200Gbps
  - Configurable service points (up to 16)
  - Real-time processing across 1G/10G/40G/100G feeds
- Select a feature per service point
  - Duplicate packet removal
  - NetFlow generation
  - Tunnel termination
  - Deep Packet Inspection
  - Protocol Header Stripping

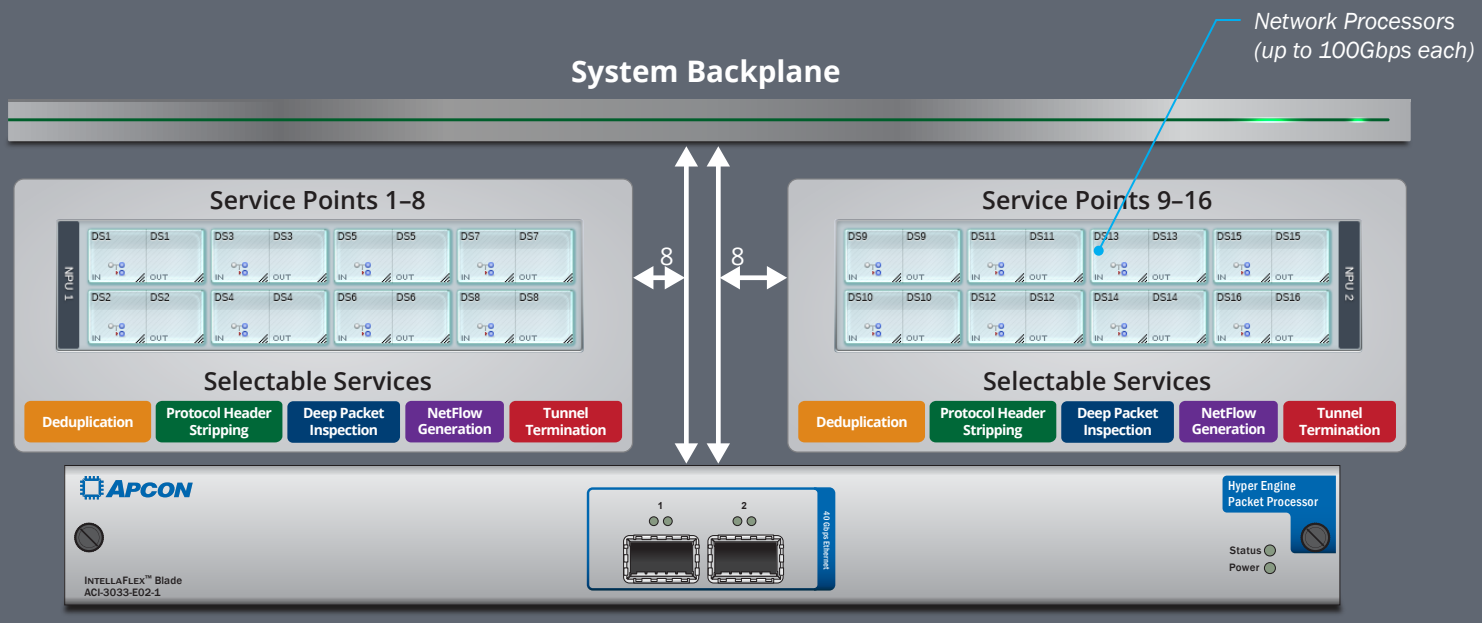
Enhance IntellaFlex XR network visibility systems with high speed packet processing features that increase efficiency and visibility for security and performance monitoring solutions.

High Performance Packet Processing

Each HyperEngine blade adds up to 200Gbps of high performance processing service to IntellaFlex XR network visibility systems. Traffic sources can be aggregated to the HyperEngine Packet Processor to perform advanced processing.

HyperEngine offers 16 internal service points across two high performance, multi threaded network processors with flexible user-selectable service options. These service points provide convenient configuration of advanced packet processing features including deduplication, NetFlow generation, Deep Packet Inspection, protocol header stripping, and tunnel termination for virtual network monitoring.

Packet Processing of 16 Traffic Sources



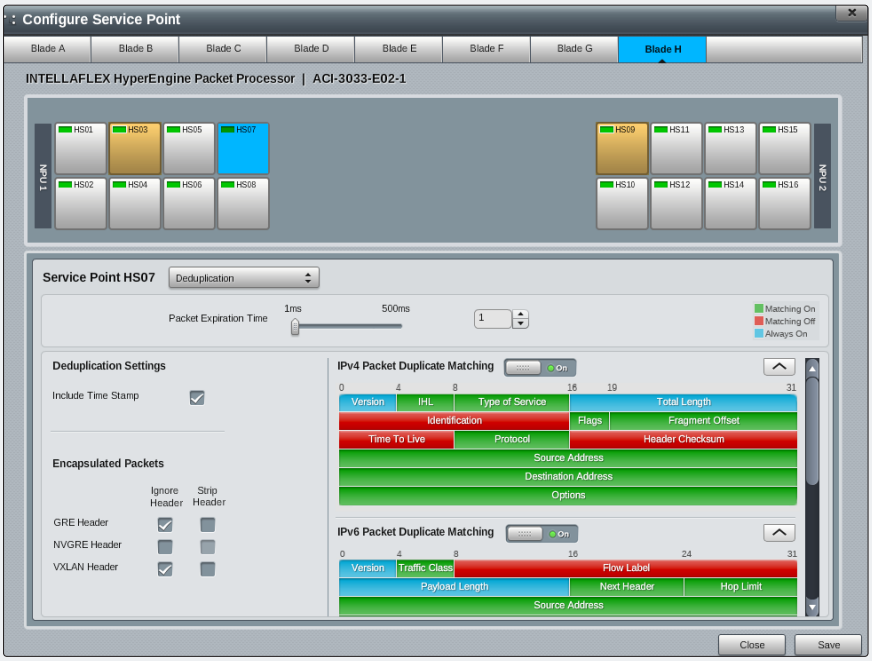
HyperEngine packet processor includes two multithreaded network processors each supporting 8 service points and up to 100Gbps capacity (total of 16 service points and up to 200Gbps processing). Easily aggregate traffic from other blades for service processing.

Processing Features

Deduplication

Complete visibility of large data center networks involves viewing traffic at several monitoring points. While this increases overall visibility, some packets will be monitored at multiple points creating duplicate packets that can overload network monitoring tools and affect reporting. Removing duplicate packets improves monitoring tool efficiency, accuracy, and recording space requirements. This enables monitoring tools to provide greater visibility while lowering overall costs.

HyperEngine can monitor every packet in the data stream to remove duplicates and improve tool efficiency. HyperEngine enables duplicate matching across layers 2, 3 and 4 headers, and supports a large, configurable window size of up to 500ms. Configurable options also include selectable fields for deduplication algorithm and inclusion/exclusion options for common encapsulations used in data centers. Another option allows configuration to ignore particular Layer 4 TCP and/or UDP header fields. These configuration options provide additional flexibility to the user to customize what is actually considered a duplicate packet.

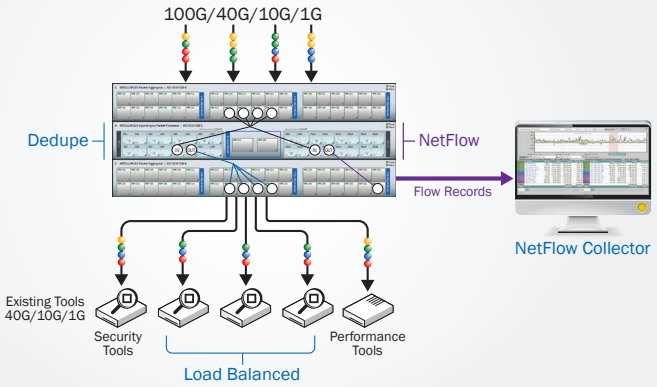


Select any service point to view configuration. Shown here is the deduplication screen that provides full customization of duplicate match conditions and time window size.

NetFlow v5, v9 and IPFIX

The HyperEngine monitors network traffic and is an ideal source of NetFlow records for monitoring NetFlow traffic statistics. Offload processing from routers and other production equipment to increase efficiency and save costs; plus consolidating NetFlow sources reduces network traffic and simplifies the monitoring architecture.

Connect any system traffic up to the 16 service points for NetFlow source processing of unsampled or sampled traffic flow records, and each can be forwarded to up to 16 NetFlow collectors.

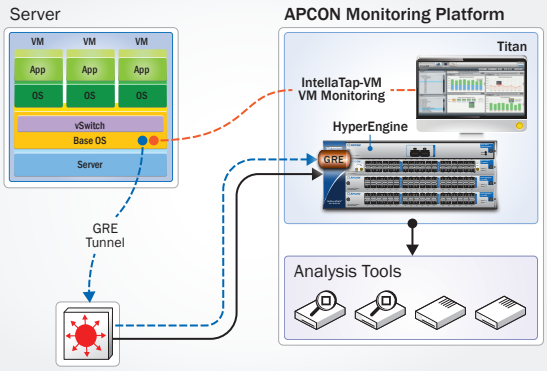


Process packets from multiple ports to remove duplicates or generate NetFlow records, directing traffic of interest to security and performance tools.

Tunnel Termination

Terminating encapsulated tunnel traffic enables multiple applications including virtual network monitoring. IntellaTap-VM virtual TAPs use tunnel encapsulation to forward VM traffic of interest to the monitoring network, and HyperEngine's Tunnel Termination feature decapsulates the tunnel traffic to ensure tool compatiblity.

The HyperEngine Tunnel Termination feature can decapsulate up to 200Gbps of tunneled traffic. HyperEngine supports multiple types of tunnels including GRE, NVGRE, VXLAN, GENEVE and ERSPAN Types I, II and III.



HyperEngine is part of APCON's virtual network monitoring solution, providing tunnel termination to monitor high volumes of VM traffic of interest. See IntellaTap-VM for more information.

Deep Packet Inspection

The HyperEngine's Deep Packet Inspection feature enables data privacy and compliance for regulations such as HIPAA and PCI by identifying and masking sensitive data. This feature performs deep packet inspection, looking inside the data packet and searching for specific data patterns, such as social security numbers or credit card numbers. Once identified, the matched data can be masked and the packet forwarded, or the packet can be dropped or forwarded unchanged.

Another use of Deep Packet Inspection is the ability to search for known virus threats, and forward any identified packets directly to a security tool. The Deep Packet Inspection feature also allows for importing a regular expression signature file to simplify configuration.

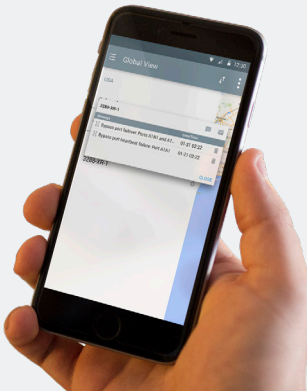
Protocol Header Stripping

Data packets are often encapsulated using various protocol headers which help the packet reach its ultimate destination but these protocol headers are not needed or used by monitoring tools. By stripping away the header information, overhead is reduced, and diagnostic tools can operate at maximum efficiency. Types of protocol headers that can be stripped on the HyperEngine blade include VXLAN, NVGRE, GRE, GENEVE, and ERSPAN types I, II, and III.

For certain protocols (GRE, NVGRE and VXLAN), the HyperEngine can perform both Deduplication and Protocol Header Stripping on each packet as it passes through a single service point on the HyperEngine blade, reducing the number of service points required to perform the dual operation.

Network Visibility Family

HyperEngine is part of APCON's IntellaFlex XR network visibility solution, and is compatible with all systems from 2RU to 14RU. Enhance multi-site management with Titan centralized management get 24 x 7 visibility with APCON smartphone and tablet application.



HyperEngine Blade Specifications

Performance	2 packet processors total up to 200Gbps*
Interfaces	16 internal service points 2 × 40G QSFP Ethernet ports
QSFP	40GBASE-SR4/LR4
XR Chassis	3072-XR, 3144-XR, 3288-XR and 3504-XR
Feature	**Deduplication** • Fully configurable duplicate match criteria on layers 2, 3 & 4 • Duplicate match window size 1ms to 500ms • GRE, NVGRE, VXLAN compatible • Simultaneous IPv4/IPv6 deduplication • Processor performance up to 200Gbps
	NetFlow Generation • Unsampled 1:1 or sampled 1:N flow statistics • NetFlow v5, v9 and IPFIX • Supports up to 16 NetFlow collectors
	Tunnel Termination • GRE, ERSPAN Types I, II and III, NVGRE, VXLAN and GENEVE compatible • Up to 200Gbps decapsulation on 16 service points • IntellaTap-VM virtual monitoring compatible
	Deep Packet Inspection • Regular Expression (RegEx) signature creation and management • Packet payload inspection using RegEx pattern matching • Configurable to mask and forward the packet, drop the packet, or forward the packet unaltered
	Protocol Header Stripping • Strips protocol header from packets for optimized tool processing • Supported protocols include GRE, NVGRE, VXLAN, GENEVE and ERSPAN I, II and III • Configurable to support deduplication and protocol stripping with single service point (GRE, NVGRE and VXLAN only)
Weight	4 lbs (1.8 Kg) without transceivers
Power	150-300 Watts / 512-1024 BTU
Size (H×W×D)	1.5 × 14.5 × 8.0 in (3.8 × 36.7 × 20.3 cm)
Operating Temp	32 to 113 °F (0 to 45 °C)
Storage Temp	-40 to 158 °F (-40 to 70 °C)
Relative Humidity	Operating: 10-85%; Storage: 0-95% noncondensing
Safety	UL 60950, EN 60950, CSA C22.2 60950
EMC	EN 55022, EN61000, FCC part 15, ICES 003
Compliance	CE mark and RoHS compliant

Part Number	Description
3033-E02-1	HyperEngine Packet Processor Blade
9140	HyperEngine Deduplication Feature License
9150	HyperEngine Tunnel Termination Feature License
9160	HyperEngine NetFlow Generation Feature License
9180	HyperEngine Deep Packet Inspection Feature License
9190	HyperEngine Protocol Header Stripping Feature License
9200	HyperEngine Packet Slicing Feature License

*Performance indicates the network processor capacity. Actual performance varies by the selected feature and packet size.