Cisco Catalyst 6500 Supervisor Engine 32 Programmable Intelligent Services Accelerator

PB383563

Cisco® introduces the Cisco Catalyst® 6500 Supervisor Engine 32 Programmable Intelligent Services Accelerator (PISA), the next generation supervisor engine for the Cisco Catalyst 6500 Series of modular switches, delivering superior and integrated deep packet inspection, application awareness, security, availability, and manageability services for the networks of small and medium-sized businesses, enterprises, and service providers. This supervisor engine is ideal for securing campus access networks, converged services MAN/WAN applications and small/medium backbone functions.

The PISA on the Supervisor Engine 32 PISA provides hardware acceleration of intelligent services such as network-based application recognition (NBAR) and flexible packet matching (FPM) at multigigabit speeds, in addition to the management and control plane functions traditionally provided by the multilayer switch feature card (MSFC). The Supervisor Engine 32 PISA is offered with the Policy Feature Card 3B (PFC3B), to ensure feature and performance compatibility with the Cisco Catalyst 6500 Supervisor Engine 32.

Announcement Summary

Introduction of the two versions of Supervisor Engine 32 PISA:

- Supervisor Engine 32 PISA with eight Gigabit Ethernet uplinks (shown in Figure 1)

Figure 1.   Supervisor Engine 32 PISA with Gigabit Ethernet Uplinks

- Supervisor Engine 32 PISA with two 10 Gigabit Ethernet uplinks (shown in Figure 2)

Figure 2.   Supervisor Engine 32 PISA with Two 10 Gigabit Ethernet Uplinks

Specifications

Table 1 summarizes the primary features available on the Supervisor Engine 32 PISA.

Table 1.   Primary Features of the Supervisor Engine 32 PISA

Technology	Feature

Network Based Application Recognition at Multigigabit Speeds	• Provides the ability to discover protocols and applications running on the network
	• Allows Intelligent traffic classification based on application type
	• Supports addition of new protocols and applications using packet description language modules (PDLMs)
	• Provides the ability to load new PDLM's without changing Cisco IOS Software releases and without rebooting the switch
	• Supports a wide variety of applications and protocols, including:
	   - P2P: BitTorrent, eDonkey/eMule, FastTrack, Gnutella, KaZaA
	   - Enterprise applications: PCAnywhere, Citrix ICA, Microsoft SQL Server
	   - Streaming Media applications: Real Time Streaming Protocol (RTSP), CU SeeMe, Netshow, StreamWorks, VDOLive
	   - Network Mail Services: Simple Mail Transfer Protocol(SMTP), point of presence (POP3), Internet Mail Access Protocol (IMAP), Lotus Notes, Microsoft Exchange
	   - Internet: HTTP(Hypertext Transfer Protocol) , FTP (File Transfer Protocol), NNTP (Network News Transfer Protocol), IRC (Internet Relay Chat)
	• GUI based management using QoS Policy Manager (QPM)

Flexible Packet Matching at Multigigabit Speeds	• Provides next generation "Super ACL" pattern matching capability for granular and customized packet filtering • Provides the ability to match on arbitrary bits of a packet at arbitrary depth (offset) in the packet header and payload hence allowing detection of malicious patterns deep within the packet • Allows users to define customized classification criteria for stateless traffic using CLI or off-box via XML • Provides the ability to install new filters on switches without reload • Thwarts worms like Slammer and MyDoom and protects against malicious attacks such as Fragmented UDP, HTTP Vulnerabilities and TCP SYNC floods • Supports Flexible Configuration in the Cisco Security Manager to push configuration files to switches
IPv4 Routing	• Static Routing • Open Shortest Path First (OSPF and OSPFv2) • Enhanced Interior Group Routing Protocol (EIGRP) • Intermediate System-to-Intermediate System (IS-IS) Protocol • Border Gateway Protocol Version 4 (BGPv4) • Bidirectional Forwarding Detection (BFD) for OSPF and IS-IS

IPv6	• Native IPv6
	• Routing Information Protocol next generation (RIPng), MP-BGP4, OSPFv3
	• IPv6 over IPv4 Tunnels
	• Internet Control Message Protocol version 6 (ICMPv6)
	• Configured, Automatic, Generic Routing Encapsulation (GRE), 6to4, ISATAP Tunnels
	• IPv6 QoS
	• PIM-SM and PIM-SSM
Layer 2 Switching	• IEEE 802.1Q
	• IEEE 802.1D/802.1w/802.1s
	• Port Aggregation Protocol (PAgP) / IEEE 802.3ad (LACP)
	• IEEE 802.1Q Tunneling
	• Layer 2 Tunneling Protocol (L2TP)
	• Flexlink
	• VLAN Translation
	• Cisco Discovery Protocol
	• VLAN Trunking Protocol (VTP)
	• Unidirectional Link Detection (UDLD)
Security	• DHCP snooping
	• Dynamic ARP inspection
	• IEEE 802.1x
	• Network Admission Control
	• CPU rate limiting
	• Control Plane Policing
	• Hardware enabled Netflow
	• User-based rate limiting
	• Unicast Reverse Path Forwarding (uRPF)
	• Hardware-based MAC learning
	• Broadcast and multicast suppression
	• Port Security on Access, 802.1Q Trunks and 802.1Q Tunneling ports
High Availability	• Hot-Swapping of Standby Supervisor Engines
	• Layer 2 rapid convergence protocol suite
	• Hardware redundancy with sub second stateful failover (SSO) and Non Stop Forwarding (NSF)
	• Generic Online Diagnostics
	• Hot Standby Router Protocol (HSRP)
	• Virtual Router Redundancy Protocol (VRRP)
	• Gateway Load Balancing Protocol (GLBP)
	• Fault management
Management	• Encapsulated Remote Switched Port Analyzer (ERSPAN), Switched Port Analyzer (SPAN), Remote SPAN (RSPAN)
	• CiscoWorks, QoS Policy Manager, Cisco Security Manager
	• ACE counters
	• Embedded Event Manager
	• SNMPv3, SSH Protocol Version 2, Secure Copy Protocol (SCP)
Multicast	• Bidirectional Protocol Independent Multicast (PIM)
	• PIM SM, PIM SSM and PIM snooping
	• IGMP (v1,v2,v3) and IGMP Snooping
	• Multicast Source Discovery Protocol (MSDP)
	• Internet Group Management Protocol (IGMP) Querier
	• Multiprotocol Border Gateway Protocol (MBGP)
	• Multicast Virtual Private Networks (MVPN)
Quality of Service	• Ingress Policing (Per Port, Per VLAN, Per Port + Per VLAN)
	• Shaped Round Robin (SRR) and Deficit Weighted Round Robin (DWRR) Scheduling
	• DSCP Transparency
	• Class of service (CoS) Mutation
	• Egress Policing

MPLS	• Ethernet over MPLS (EoMPLS) • EoMPLS VC Type 4 and VC Type 5 • MPLS VPN (RFC2547) • MPLS Traffic Engineering (MPLS TE) • MPLS Fast Reroute (MPLS FRR)

Ordering Information

Table 2 provides the ordering information for the new Supervisor Engine 32 PISA.

Table 2. Product Numbers for Supervisor Engine 32 PISA

Product Number	Description
Supervisor Engine 32 PISA	
WS-S32-GE-PISA	Catalyst 6500 Supervisor 32 with PISA and 8 GE uplinks
WS-S32-10GE-PISA	Cat 6500 Supervisor 32 with PISA and 2 ports 10GbE
Memory Options for Supervisor Engine 32 PISA	
MEM-xCEF720-512M	Default switch processor (SP) DRAM on the Supervisor Engine 32 PISA baseboard
MEM-MSFC3-1GB	Default route processor (RP) DRAM on PISA (Programmable Intelligent Services Accelerator)
MEM-C6K-CPTFL512M	Default switch processor (SP) booflash on the Supervisor Engine 32 PISA baseboard
MEM-C6K-CPTFL256M	Default route processor (RP) booflash on PISA (Programmable Intelligent Services Accelerator)
MEM-C6K-CPTFL256M	Optional external 256-MB compact flash memory
MEM-C6K-CPTFL512M	Optional external 512-MB compact flash memory
Software Options for Supervisor Engine 32 PISA	
S3P3IBL-12218ZY	Cisco CAT6000 SUP 32 PISA IP BASE LAN ONLY Includes support for: • RIP, Static Routing, EIGRP Stub • Network Based Application Recognition (NBAR) • Flexible Packet Matching (FPM)
S3P3IBK9L-12218ZY	Cisco CAT6000 SUP 32 PISA IP BASE SSH LAN ONLY Includes support for: • RIP, Static Routing, EIGRP Stub • Network Based Application Recognition (NBAR) • Flexible Packet Matching (FPM)
S3P3IS-12218ZY	Cisco CAT6000 SUP32 PISA IP SERVICES Same functionality as the IP BASE image PLUS • IPv4 routing and services
S3P3ISK9-12218ZY	Cisco CAT6000 SUP32 PISA IP SERVICES SSH Same functionality as the IP BASE image PLUS • IPv4 routing and services
S3P3AIK9-12218ZY	Cisco CAT6000 SUP32 PISA ADVANCED IP SERVICES SSH Same functionality as the IP SERVICES image PLUS • Advanced MPLS feature set • Layer3 IPv6 Services • Advanced FPM Manageability

Availability

Table 3 shows availability dates.

Table 3.   Availability Dates for Supervisor Engine 32 PISA

Part Number	Date
WS-S32-GE-PISA and WS-S32-GE-PISA=	May 2007
WS-S32-10GE-PISA and WS-S32-10GE-PISA=	June 2007
S3P3IBL-12218ZY	May 2007
S3P3IBK9L-12218ZY	May 2007
S3P3IS-12218ZY	May 2007
S3P3ISK9-12218ZY	May 2007
S3P3AIK9-12218ZY	May 2007

For More Information

For more information about the Cisco Catalyst 6500 Supervisor Engine 32 PISA, go to
http://www.cisco.com/en/US/products/hw/switches/ps708/products_data_sheets_list.html.

Contact Information

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