

## PB100G24AC Time Stamping

In traditional data center applications, TAP devices are used to sample network traffic. As traffic increases, there is a growing requirement for extended performance monitoring.

The PB100G24AC provides a flexible packet time stamping function. The time stamp function is set up to insert a new 30 byte Layer 2 header before the original DestMAC address. The time stamp Layer 2 header is defined (right) as follows:

Time Stamp Layer 2 Header											
6 bytes	6 bytes	2 bytes	8 bytes	8 bytes							
New DMAC	New SMAC	Eth Type	Reserved	TimeStamp	Original DMAC						

The time stamping is performed before the packet enters the switching chip. This function supports the standard Time of Day format and is accurate down to nano-second resolution. Software can distinguish these packets by the new EthType that has been added into the packet. The Time Stamp EthType is defined as 0xff12.

Note: When Layer 3 routing or filtering is to be performed, the additional Time Stamp header needs to be removed. Contact Garland Technology for a Wireshark plugin that will capture and display these packets.

io.	Time	Source	Destination	Protocol	Length	Info			
	1 0.000000	192.168.100.2	192.168.100.1	IPV4	34	IPV6	hop-by-hop	option.	(0x00)
	2 19. 298101	192.168.100.12	192.168.100.2	IPV4	64	IPV6	hop-by-hop	option	(0x00)
_									
		100							
Fr	ame 2: 64 byt	tes on wire (512 b	its), 64 bytes capt	ured (512	bits)				
Fr	ame 2: 64 byt	tes on wire (512 b	its), 64 bytes capt	ured (512	bits)				
	ame 2: 64 byt		its), 64 bytes capt	ured (512	bits)				100
	acket Source			ured (512	bits)				
	acket Source	Port: 1	-30 16:04:06	ured (512	bits)				
	acket Source imestamp Tim	e Port: 1 ne of day: 2015-05 no second: 1073741	-30 16:04:06				(ff:ff:ff:	ff:ff:f	f)

## Setting up the PB100G24AC to Time Stamp packets:

- 1) Configure the new MAC addresses and the new EthType: Switch(config)# timestamp-over-ether x.x.x y.y.y 0xff12 (where x.x.x is the new DMAC, and y.y.y is the new SMAC)
- 2) Configure a time stamp group: Switch(config)#tap-group tap test ts
- 3) Configure the ingress/egress ports: Switch(config)#ingress eth-0-1 Switch(config)#egress eth-0-2 timestamp
- 4) Use the show tap-group command to verify time stamping is enabled: Switch(config)#show tap-group

TAP-group ingress flowname mark-src egress tap\_test\_ts eth-0-1 eth-0-2[TS]

5) Use Wireshark and the plugin to parse and display the new time stamped packets.