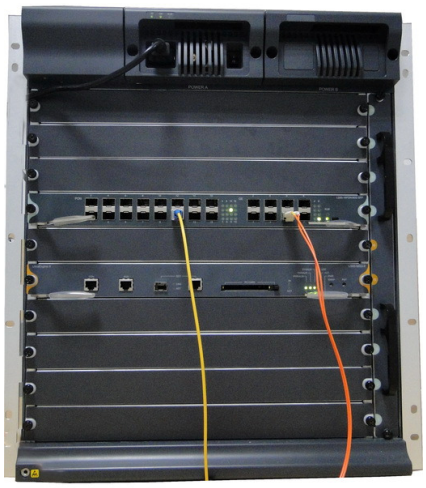

SNA9000T 128 Port Gepon OLT System Description:

The SNA9000T is a Gepon OLT System based on IEEE802.3ah Gigabit Epon standard. It supports maximum 128 Gepon ports, which can connect up to 8192 pcs of subscriber Gepon ONUs at 1:64 Optical Fiber Ratio. It is a Telecom Grade Grade OLT system designed for Internet Service providers offering high quality and high speed internet services (such as IPTV, VoIP, Data Transmission services) to Subsribers.

Telecom Grade Reliability:

The SNA9000T supports Telecom Grade Reliability. It comes with the Hardware-proof design and core components redundancy To secure the reliable and stable operation. With the hardware-proof design, the main hardware components, such as the main control board, the power supply board, and the Gepon service boards will be secured even it is hit strongly. With the Core Componnets Redundancy, the Main Control Board and the Power Supply boards can be backed up to secure the stable operation for the whole system.

Advanced System Architecture:

The SNA9000T is designed based on Distribution and Modular theory, it adopts multiple processors treatment and highly optimized switching architecture. With which greatly ensures the high switching capability and high expandability.

Rich Layer 2, Layer 3, Layer 4 Management Features:

The SNA9000T supports layer 2, layer 3, layer 4 wire-speed switching and rich management features such as IEEE 802.3 10Base-Tx Ethernet, IEEE 802.3u 100Base-Tx Ethernet, IEEE802.3z gigabit Ethernet, IEEE802.3ad, IEEE 802.3x flow control, IEEE802.1Q VLAN, IEEE802.1P QOS, IEEE 802.1D Spanning Tree, IEEE802.1W Rapid Spanning Tree, IEEE802.1S Multiple Spanning Tree, IEEE802.3ah Gigabit EPON, RIPv1/2, OSPF, BGP V3, PIM-SM, PIM-DM.

High Capacity & Performance:

The SNA9000T comes with a high quality hardware and a well optimized software, which suffice the high capacity for the whole

system. It supports a forwarding rate of 952Mbps, Layer 3 routing table of 512K, layer 2 MAC address table of 512K, VLAN Groups of 4096, Access Control Policies of 8K, with which assures the high speed and highly secured routing and switching capability.

Powerful Security:

The SNA9000T Gepon OLT supports powerful Security features. It supports Access Control Policies based on User ports, User MACs or applications. Support MPLS VPN, it can secure your network transmission remotely. The following security features are also supported:

Bandwidth Control based on port priority,

Bandwidth Control based on Ingress and Egree

Support DOS Attack proof

Support SSH2.0 security management

Support IEEE802.1x Access Authentication

Support VLAN ID binding to MAC address, Port Number or IP Address.

Fully IPV6 and IPV4 Support:

The SNA9000 Gepon OLT system is fully ready with IPV6 while remaining the full compatibility to IPV4. It supports IPV4 and IPV6 stacking, IPV4 to IPV6 basic filter of 6 to 4 tunnels. It also supports BGP4, BGP4+, RIPng and OSPF V3 for IPV6 dynamic routing and IPV6 static routing.

Uniform Network Maintenance and Management:

The SNA9000T Gepon OLT system supports powerful management and convenient maintenance features. It supports SNMP V1, V2, V3, Telnet and Web Management. With SNMP management software, such as Dude, HP Openview installed in a management PC, the system administrators can easily manage and configure the applied SNA9000T OLT easily and remotely with a few alternative ways.

Gepon Technology based on IEEE802.3ah standard:

The SNA9000T supports max of 8 Gepon boards, each board comes with 16 Gepon SC ports. The Gepon Boards of SNA9000T supports the following standards and features:

- Support IEEE802.3ah Gigabit Epon standard,
- Support a max of 128 Gepon SC ports for downlinking, can connect up to 8192 pcs of Subscriber ONUs
- Support the transmission rate of 1.25Gbps
- Wavelength of Gepon SC ports: Uplink: 1310nm, Downlink: 1490nm
- Average Optical Transmitting Power for the Gepon SC Port: +2dbm to +7dbm
- Optical reception sensibility of the Gepon SC Port: -30dBm
- Max Optical Fiber Ratio: 1:64
- Support CTC 2.1 China Telecom Gigabit Epon standard
- Support Standard OAM and expandable OAM management features
- Support Encryption for uplinking and downlinking data
- Support upgrading a single ONU or to multiple ONUs simultaneously and remotely by the System administrator
- Support ONU authentication, can report illegal ONU registering events
- Support Backup of Optical Fiber in backbone network, can switch over to the redundant optical fiber link in 50ms.

Hardware Features:

- Fully Compatible with IEEE802.3, IEEE802.3u, IEEE802.3z, IEEE802.3ah standard

- Support 8 pcs of Gepon User Boards, Offers up to 128 Gepon SC Ports,
- support the transmission rate of 1.25Gbps
- Support 2 pcs of 1Gigabit and 10Gigabit alternative User Boards
- 12U Chassis with Cooling Fans equipped inside
- Offers the backplane bandwidth of 3.2Tbps per second
- Offers the Switching Capacity of 2.3Tbps per second
- Offers the Packet Forwarding Rate of 952Mbps per second
- Central Processing Unit (CPU): MIPs RISC CPU at 800MHz
- Flash: 16MB
- Memory: 512MB, expandable to 2GB
- MAC address table: 512K
- VLAN Table: 4K
- Routing Table: 512K
- Power Supply: Redundant Power Supply,
- AC Power Supply: 110-240V AC, 50/60Hz, Support Hot-Swap
- DC Power Supply: -48V
- Power Consumption: 1000W

Software Features:

- Support IPV6 ND, IPV6 tunnel, ,IPV6 Static Routing, IPV6 PMTU, IPV6 FIB, IPV6 ACL, NAT-PT, RIPng, OSPFv3, BGP4+, 6PE
- Support IGMP, IGMP Proxy,IGMP Snooping, PIM-SM, PIM-DM, DVMRP, MSDP, MOSPF, MBGP for multicast
- Support IEEE802.1D Spanning Tree, IEEE802.1W Rapid Spanning Tree, IEEE802.1S Multiple Spanning Tree
- Support IEEE802.3ad Link Aggregation,
- Support IEEE802.3X Half Duplex and Full Duplex Backpressure Flow Control
- Support Head-Of-Line (HOL) blocking prevention
- Support IEEE802.1Q VLAN, GVRP Generic VLAN Registration, PVLAN Private Vlans, QinQ Vlan Stacking
- Support IEEE802.1P QOS, TOS, DifferSev, WRR, SP, SWRR, Port ID, VLAN and ACL based flow classification.
- Support Standard and Enhanced Access Control (ACL), ACL IP, Data filtration based on Source and Destination IP,
- Support Port based and MAC based Binding, Support MAC address filters
- Support DHCP Server, DHCP Client and DHCP Relay
- Support IEEE802.1X Radius User Authentication
- Support Bandwidth Control
- Support MPLS, MPLS VPN, MPLS TE
- Support Cli, Telnet, SNMP V1, V2, V3, support RMON 1, 2, 3, 9, MIB

Gepon Solution Application:

Gepon system consists of Gepon OLT, Gepon ONU and Optical Fiber Splitters. Gepon OLT is the master device (also sorted as Layer 2 Access Switching equipment) that connects to Gepon ONU with Optical Fiber Splitters. Gepon ONU is the subscriber device that is set at the Subscribers' house. With the NMS installed in the Server PC at Gepon OLT side, administrators can manage/configure the Gepon ONU in the Gepon OLT' s server room remotely. With all 1 gigabit or 10Gigabit fiber connected, Gepon system offers a large bandwidth that can meet or exceed the transmission requirements for IPTV, VoIP and Data services. It is a great option for Fiber To The Home, Fiber To The Building, etc solutions.

Specifications:

Model NO.	SNA9000T GEPON OLT SYSTEM	
Hardware	Hardware Capacity	Support 10 Service Slots, 1 CPU Board and 1 Power Supply Board Fixed Total 8 Service Boards applicable
	Switching Capacity	2.3Tbps
	Backplane Bandwidth	3.2Tbps
	Packet Forwarding Rate	952Mbps
	10Gigabit Interfaces	Optional, support 16 10G interfaces max
	1 Gigabit Interfaces	Fixed on board, support up to 64 Gigabit SFP interfaces
	1.25G Gepon Interfaces	Optional, support up to 128 Gepon SFP interfaces
	Central Processing Unit (CPU):	MIPs RISC CPU at 800MHz
	Memory:	512MB, expandable to 2GB
	Flash:	16MB
	MAC Address Table	512K
	VLAN Table	4K
	Layer 3 Routing Table	512K
	FANs	2 to 4 Fans
	Power Supply	Redundant Power Supply AC Power Supply: AC110-240V, 50/60Hz DC Power Supply: DC -48V
	Available Parts and Components	SNA9000T Main Chassis, 12U height, with one CPU board, one Power Supply Board and 2 FANs equipped, expandable to 4 FANs
		Main CPU Board (Mandatory, already equipped in the main chassis)
		Power Supply Board (Mandatory, already equipped in the main chassis)
		Gepon User Board with 16 Gepon Ports and 8 Gigabit SFP Uplink ports (Optional)
		10 Gigabit User Board with 4 10G XFP Interfaces (Optional)
		Gigabit Fiber Switch User Board with 20 Gigabit SFP ports and 4 Gigabit Ethernet ports (Optional)
		Gigabit Ethernet Switch User Board with 24 Port 10/100/1000Base-Tx (Optional)
	Gepon Characters	▪ Support IEEE802.3ah Gigabit Epon standard, ▪ Support a max of 128 Gepon SC ports for downlinking, can connect up to 8192 pcs of Subscriber ONUs ▪ Support the transmission rate of 1.25Gbps ▪ Wavelength of Gepon SC ports: Uplink: 1310nm, Downlink: 1490nm ▪ Average Optical Transmitting Power for the Gepon SC Port: +2dbm to +7dbm ▪ Optical reception sensibility of the Gepon SC Port: -30dBm ▪ Max Optical Fiber Ratio: 1:64 ▪ Support CTC 2.1 China Telecom Gigabit Epon standard ▪ Support Standard OAM and expandable OAM management features

		▪ Support Encryption for uplinking and downlinking data ▪ Support upgrading a single ONU or to multiple ONUs simultaneously and remotely by the System administrator ▪ Support ONU authentication, can report illegal ONU registering events ▪ Support Backup of Optical Fiber in backbone network, can switch over to the redundant optical fiber link in 50ms.
Software	Support IPV6 ND, IPV6 tunnel, ,IPV6 Static Routing, IPV6 PMTU, IPV6 FIB, IPV6 ACL,	
	Support NAT-PT, RIPng, OSPFv3, BGP4+, 6PE	
	Support IGMP, IGMP Proxy,IGMP Snooping,	
	Support PIM-SM, PIM-DM, DVMRP, MSDP, MOSPF, MBGP	
	Support IEEE802.1D Spanning Tree,	
	Support IEEE802.1W Rapid Spanning Tree,	
	Support IEEE802.1S Multiple Spanning Tree	
	Support IEEE802.3ad Link Aggregation,	
	Support IEEE802.3X Half Duplex and Full Duplex Backpressure Flow Control	
	Support Head-Of-Line (HOL) blocking prevention	
	Support IEEE802.1Q VLAN, Port Based VLAN	
	Support GVRP Generic VLAN Registration,	
	Support PVLAN Private Vlans,	
	Support QinQ Vlan Stacking	
	Support MPLS, MPLS VPN, MPLS TE	
	Support IEEE802.1P QOS, TOS, , DifferSev,	
	Support WRR, SP, SWRR, Port ID, VLAN and ACL based flow classification.	
	Support Bandwidth Control	
	Support Standard and Enhanced Access Control (ACL), ACL IP,	
	Support Data filtration based on Source and Destination IP,	
	Support IEEE802.1X Radius User Authentication	
	Support Port based and MAC based Binding,	
	Support MAC address filters	
	Support Cli, Telnet, SNMP V1, V2, V3,	
	Support RMON 1, 2, 3, 9, MIB	
	Support DHCP Server, DHCP Client and DHCP Relay	