NE40E Series 200G Integrated Line Processing Units

Product Overview

Huawei NE40E Series Universal Service Routers support 200Gbps integrated line processing units (LPUI-200 Series). LPUI-200 Series integrated line processing units handle all the network data-plane traffic-processing tasks of Huawei NE40E series universal service routers.

Figure 1. 200G Integrated Line Processing Units

2-Port 100GBase-CFP Integrated Line Processing Unit(LPUI-200)

20-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)

1-Port 100GBase-CFP + 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)

Product Features

The LPUI-200 Series supports the following integrated line processing units:

- 2-port 100GE integrated line processing unit: has industry-leading 100G line-rate Ethernet interfaces, which can replace a large number of 10GE link aggregation bundles to simplify network operations.
- 20-port 10GE integrated line processing unit: boasts industry-leading high interface density and supports large-scale aggregation for scalable Ethernet and IP/Multiprotocol Label Switching (IP/MPLS) networks.
- 1-port 100GE and 10-port 10GE integrated line processing unit: has the advantages of the 2-port 100GE integrated line processing unit and the 20-port 10GE integrated line processing unit.

These high-capacity integrated line processing units are designed to remove bandwidth bottlenecks that are caused by next-generation high-speed and high-requirement computing applications and technologies. These line cards provide economical, scalable, and reliable line-rate Ethernet and IP/MPLS services.

The LPUI-200 uses Huawei-developed Solar chips and provides powerful service capability. The LPUI-200 supports the combination of IP, MPLS, Ethernet, L2VPN, and L3VPN services. In addition, the LPUI-200 supports the 1588v2 feature, which allows for submicrosecond time synchronization based on specific

hardware to ensure high-precision time synchronization between devices for applications and services that require 1588v2 clock synchronization, such as IP RAN and TDM migration. The LPUI-200 supports IPv6, which helps implement smooth IPv4-to-IPv6 transition. The LPUI-200 has a flexible programmable architecture. Microcode programming can be used for new service deployment, without the need to replace hardware, which reduces investments. In addition, this architecture drastically shortens the technological innovation cycle and accelerates new service rollout, helping customers build flexible and scalable networks.

LPUI-200 Series routers use Huawei-developed Solar chips and can dynamically change the number of forwarding chip processing cores, frequency, and bus bandwidth to compensate for service traffic changes, reducing boards' power consumption. The LPUI-200 Series also support dynamic frequency adjustment and intelligent fan speed adjustment, which significantly reduces power consumption, with less than 0.9 W for each gigabit, lowest in the industry.

Product Compatibility

Table 1. 200G Integrated Line Processing Units Compatible Chassis ("●" indicates "support", and "-" indicates "not support")

BOM	Order Name	Description	NE40E-					
			X3	X8	X16	X3A	X8A	X16A
03056862	CR5D00E2NC76	2-Port 100GBase-CFP Integrated Line Processing Unit(LPUI-200)	-	-	-	●	●	●
03056863	CR5D00LEXF76	20-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)	-	-	-	●	●	●
03056864	CR5DE1NLAX76	1-Port 100GBase-CFP + 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)	-	-	-	●	●	●

Table 2. 200G Integrated Line Processing Units Compatible Optical/Electrical Modules

BOM	Order Name	Description	Optical type supported
03056862	CR5D00E2NC76	2-Port 100GBase-CFP Integrated Line Processing Unit(LPUI-200)	100Gbps CFP optical module
03056863	CR5D00LEXF76	20-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)	1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module 10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module 1.25/9.953/10.3125Gbps SFP+ optical module
03056864	CR5DE1NLAX76	1-Port 100GBase-CFP + 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)	1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module 10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module 1.25/9.953/10.3125Gbps SFP+ optical module 100Gbps CFP optical module

Product Specifications

Table 3. 2-Port 100GBase-CFP Integrated Line Processing Unit(LPUI-200) Specifications

Item	Specification
Order Name	CR5D00E2NC76
Silkscreen	LPUI-200 2x100GE-LAN-CFP-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	11 kg (24.26 lb)
Typical power consumption	293.0 W
Typical heat dissipation	950.6 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	CFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 4. 20-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200) Specifications

Item	Specification
Order Name	CR5D00LEXF76
Silkscreen	LPUI-200 20x10GE-LAN/WAN-SFP+ -A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	9.9 kg (21.83 lb)
Typical power consumption	295.0 W
Typical heat dissipation	957.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)

Item	Specification
Connector type	SFP/SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 5. 1-Port 100GBase-CFP + 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)
Specifications

Item	Specification
Order Name	CR5DE1NLAX76
Silkscreen	LPUI-200 1x100GBase-CFP -10x10GBase LAN/WAN-SFP+ -A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	10.4 kg (23.04 lb)
Typical power consumption	294.0 W
Typical heat dissipation	953.9 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	CFP, SFP/SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Product Performance

Table 6. Product Performance of the LPUI-200

Feature	Specification
FIB	IPv4: up to 4,000,000 routes IPv6: up to 2,000,000 routes Mixed: up to 2,000,000 IPv4 routes and 1,000,000 IPv6 routes
Multicast	IPv4: up to 64,000 routes IPv6: up to 8,000 routes
QoS	Up to 192,000 queues in the upstream Up to 256,000 queues in the downstream Up to 5 levels of hierarchy Up to 200ms packet buffer time
Access Control List (ACL) rules	ACLv4: up to 256,000/slot ACLv6: up to 32,000/slot

For More Information

For more information about the Huawei NE40E Series Routers, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging into the Huawei Enterprise technical support web: http://support.huawei.com/enterprise/
- Sending an email to the customer service mailbox: support_e@huawei.com

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