NE20E-S Series IP Hard Pipe Line Cards

Product Overview

IP hard pipe is an IP network-based access technology newly developed by Huawei, which provides high quality leased line solution in IP network. IP hard pipe is segregated from traditional IP services by hardware resource reserved, which guarantees the leased line low latency, high reliability and security. It's a viable standard for migrating SDH network to IP.

The Huawei® NE20E-S Series Universal Service Routers support IP hard pipe, providing a high quality IP leased line solution for enterprises. IP hard pipe strictly isolates soft and hard pipes by hardware so that soft and hard pipe bandwidths are isolated and cannot be preempted. A hard pipe is similar to a synchronous digital hierarchy (SDH) rigid pipe. IP hard pipe uses IP Flow Performance Measurement (FPM) to measure service quality of flows and uses the NMS and uTraffic to display the measurement result and real-time service operating status, making IP leased line services controllable, manageable, and visible.

Learn more about IP hard pipe: https://tools.ietf.org/html/rfc7625.

Figure 1 shows the IP hard pipe line cards portfolio in NE20E-S.

Figure 1. IP Hard Pipe Line Cards in NE20E-S Series Routers

2x10GE-SFP+-H(03031DKC)

10xFE/GE-SFP-H

2x10GE-SFP+-H(03032CRN)

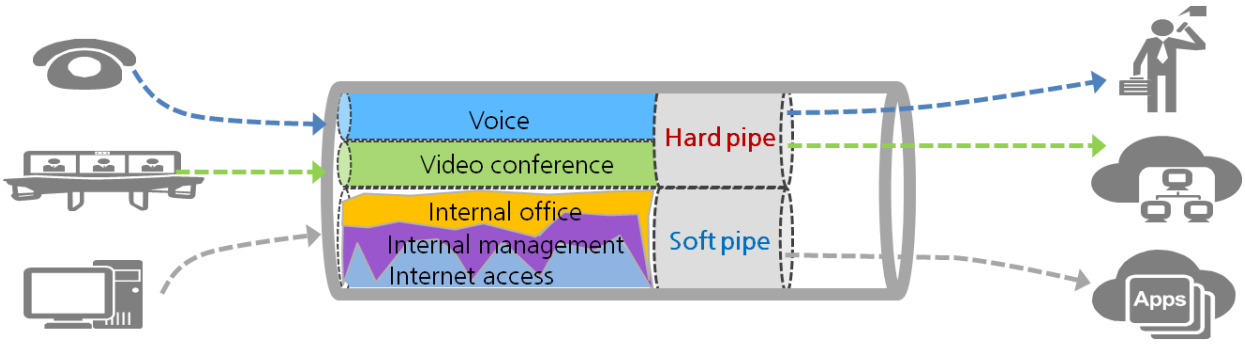
8xFE/GE-SFP-H

Product Features and Applications

As networks are evolving to all IP, a large number of delay-sensitive leased line services are being migrated to the IP networks. However, the legacy IP network devices use statistical multiplexing of physical bandwidth, and the IP network traffic model is complex. In case of traffic congestion and bursts, the delay may fail to meet the requirement. The legacy SDH network can provide high-quality leased line services, but it requires a large investment, reserves network resources for dedicated use, and is not easy to expand. If SDH and IP networks are both used, the OPEX is increased, and resources are wasted.

IP hard pipe is an IP network-based access technology that provides bandwidth guarantee and low delay as well as service-specific granular OAM and SLA monitoring, allowing the IP networks to provide leased line access services through high-quality independent pipes.

Figure 2. IP Hard Pipe solution



The NE20E-S series universal service routers support IP hard pipe line cards, providing a high quality IP leased line solution for enterprises to guarantee the online video conference, emergency commanding, remote healthcare, etc.

Figure 3. Usage Scenarios of the IP Hard Pipe Card

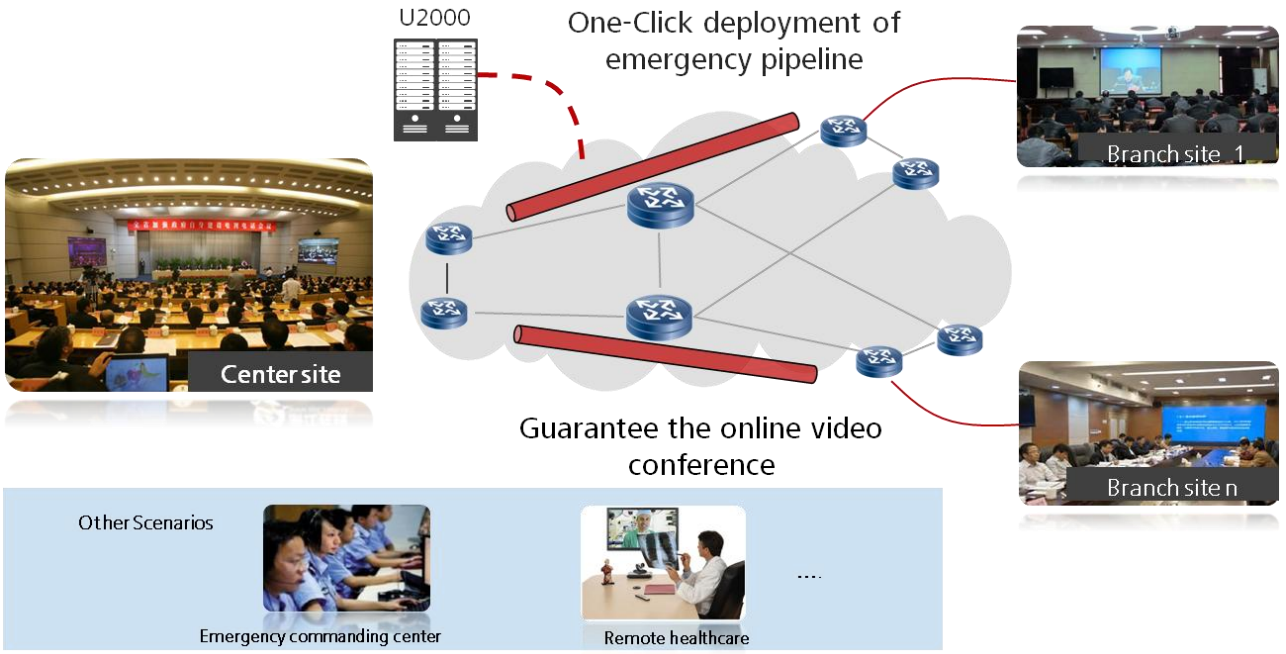


Table 1. Features of IP Hard Pipe Line Cards

Features	Benefits
Segregated pipe	• Hard pipes are segregated strictly form soft pipes by reserved hardware resources. • The priority of hard pipe is guaranteed strictly. No mixed scheduling. Hard pipe packets are forwarded with the highest priority on the public network.
Low latency ,high reliability	• IP hard pipe cards use the Huawei self-developed chips, which can guarantee dedicate resource and guarantee each hop latency less than 100us, and end-to-end latency less than 1ms. • With multi-homing, OAM fault detection and Hot standby path protection, the protection switching time is less than 50 ms.
Visual management	• Unified bandwidth resource management. Manages IP hard pipe bandwidth resources centrally so you can query the resource usage. • Supports visualized IP hard pipe service provisioning. • Provides IP hard pipe performance statistics collection, which helps in hard pipe network expansion.
Automatic monitor	• Real-time SLA monitoring of specific services using IP FPM & uTraffic. • Static tunnel connectivity detection using OAM technology.

Product Compatibility

错误！未找到引用源。 and Table 3 show the compatibility information for the IP hard pipe line cards supported in Huawei NE20E-S Series Routers.

Table 2. IP Hard Pipe Line Cards Compatible Chassis("●" indicates supported items, "-" indicates unsupported items) (1)

BOM	Order Name	Description	NE20E-S4	NE20E-S8	NE20E-S16	NE20E-S8A	NE20E-S16A
03031DKC	CR2D0L2XFH10	2-Port 10GBase LAN/WAN-SFP+ Physical Interface Card H	●	●	●	●	●
03031DKK	CR2D0EAGFH10	10-Port 100/1000Base-X-SFP Physical Interface Card H	●	●	●	●	●
03032CRN	CR2D0L2XFH11	2-Port 10GBase LAN/WAN-SFP+ Physical Interface Card H	●	●	●	●	●
03032CRP	CR2D0E8GFH10	8-Port 100/1000Base-X-SFP Physical Interface Card H	●	●	●	●	●

Table 3. IP Hard Pipe Line Cards Compatible Chassis("●" indicates supported items, "-" indicates unsupported items) (2)

BOM	Order Name	Description	NE20E-S2E	NE20E-S2F
03031DKC	CR2D0L2XFH10	2-Port 10GBase LAN/WAN-SFP+ Physical Interface Card H	-	●
03031DKK	CR2D0EAGFH10	10-Port 100/1000Base-X-SFP Physical Interface Card H	-	●
03032CRN	CR2D0L2XFH11	2-Port 10GBase LAN/WAN-SFP+ Physical Interface Card H	-	●
03032CRP	CR2D0E8GFH10	8-Port 100/1000Base-X-SFP Physical Interface Card H	-	●

Product Specifications

Table 4. 2-Port 10GBase LAN/WAN-SFP+ Physical Interface Card H Specifications

Item	Specification
Order Name	CR2D0L2XFH10
Silkscreen	2x10GE-SFP+-H
Dimensions (H x W x D)	19.8 mm x 193.8 mm x 209.3 mm (0.78 in. x 7.63 in. x 8.24 in.)
Weight	0.6 kg (1.32 lb)
Typical power consumption	10.0 W
Typical heat dissipation	32.4 BTU/hour
Ambient temperature	Long terms: -40 °C to 65 °C (-40°F to 149°F)
Connector type	SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP, and Ethernet_SNAP
Reliability and availability	Support for hot swap.

Table 5. 10-Port 100/1000Base-X-SFP Physical Interface Card H Specifications

Item	Specification
Order Name	CR2D0EAGFH10
Silkscreen	10xFE/GE-SFP
Dimensions (H x W x D)	19.8 mm x 193.8 mm x 209.3 mm (0.78 in. x 7.63 in. x 8.24 in.)
Weight	0.6 kg (1.32 lb)
Typical power consumption	11.7 W
Typical heat dissipation	38.0 BTU/hour
Ambient temperature	Long terms: -40 °C to 65 °C (-40°F to 149°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP, and Ethernet_SNAP
Reliability and availability	Supports hot swap.

Table 6. 2-Port 10GBase LAN/WAN-SFP+ Physical Interface Card H Specifications

Item	Specification
Order Name	CR2D0L2XFH11
Silkscreen	2x10GE-SFP+-H
Dimensions (H x W x D)	19.8 mm x 193.8 mm x 209.3 mm (0.78 in. x 7.63 in. x 8.24 in.)
Weight	0.6 kg (1.32 lb)
Typical power consumption	10.0 W
Typical heat dissipation	32.4 BTU/hour
Ambient temperature	Long terms: -40 °C to 65 °C (-40°F to 149°F)
Connector type	SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP, and Ethernet_SNAP
Reliability and availability	Support for hot swap.

Table 7. 8-Port 100/1000Base-X-SFP Physical Interface Card H Specifications

Item	Specification
Order Name	CR2D0E8GFH10
Silkscreen	8xFE/GE-SFP-H
Dimensions (H x W x D)	19.8 mm x 193.8 mm x 209.3 mm (0.78 in. x 7.63 in. x 8.24 in.)
Weight	0.6 kg (1.32 lb)
Typical power consumption	11.0 W
Typical heat dissipation	35.7 BTU/hour
Ambient temperature	Long terms: -40 °C to 65 °C (-40°F to 149°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP, and Ethernet_SNAP
Reliability and availability	Support for hot swap

For More Information

For more information about the Huawei NE20E-S 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

Trademark Notice

, HUAWEI and  are trademarks or registered trademarks of Huawei Technologies Co., Ltd.

Other trademarks, product, service and company names mentioned are the property of their respective owners.

General Disclaimer

The information in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. Huawei may change the information at any time without notice.

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Industrial Base

Bantian, Longgang

Shenzhen 518129, P.R. China

Tel: +86-755-28780808

www.huawei.com