

1. Price of SDNet/2 Circuit (Effective from 1st March 2016)

SDNet/2 services are provided by the Accredited Vendors directly to CCASS Participants (CPs) and Designated Banks (DBs). CPs/DBs shall apply the services and engage into commercial agreements with the Accredited Vendors directly. However, all Accredited Vendors shall offer SDNet/2 services to CPs/DBs according to a price scheme below.

Prices listed below are on a per circuit basis and applicable to both production circuits and testing circuits. A dual-circuit configuration will cost 2 times the cost of a single circuit.

a. One-time Charge for New Circuit Installation

The following table shows the one-time charge for installation of new SDNet/2 circuit.

Bandwidth	One-time charge for new circuit installation by Accredited Vendors (per circuit)		
	PCCW	HGC	Wharf T&T
1M-20M Circuit	Waived		
30M -1G Circuit	Contact Accredited Vendors for information		

b. Monthly Charge for Circuit Rental

The following table shows the prices of different bandwidth ranges by each Accredited Vendor for circuit rental:

Bandwidth	Capped Price ¹ of Monthly Charge for Circuit Rental by Accredited Vendors (per circuit)		
	PCCW	HGC	Wharf T&T
1M Circuit	≤ HK\$1,300	≤ HK\$1,300	≤ HK\$1,300
2M Circuit	≤ HK\$1,900	≤ HK\$1,900	≤ HK\$1,900
3M Circuit	≤ HK\$2,400	≤ HK\$2,400	≤ HK\$2,400
4M Circuit	≤ HK\$2,900	≤ HK\$2,900	≤ HK\$2,900
5M Circuit	≤ HK\$3,000	≤ HK\$3,000	≤ HK\$3,000
6M Circuit	≤ HK\$3,100	≤ HK\$3,100	≤ HK\$3,100
7M Circuit	≤ HK\$3,200	≤ HK\$3,200	≤ HK\$3,200
8M Circuit	≤ HK\$3,300	≤ HK\$3,300	≤ HK\$3,300
9M Circuit	≤ HK\$3,400	≤ HK\$3,400	≤ HK\$3,400
10M Circuit	≤ HK\$3,500	≤ HK\$3,500	≤ HK\$3,500
20M Circuit	≤ HK\$4,500	≤ HK\$4,500	≤ HK\$4,500
30M to 1G Circuit	Contact Accredited Vendors for information ²		

¹ Capped Prices for 1M to 20M Circuit Only.

² CPs/DBs are advised to contact respective Accredited Vendors for prices of 30M and above circuits.

c. Monthly Charge for Network Switch Rental

The following table shows the capped prices by each Accredited Vendor for network switch rental:

Service	Capped Price of Monthly Charge for Network Switch by Accredited Vendors (per network switch)		
	PCCW	HGC	Wharf T&T
Network Switch	≤ HK\$200	≤ HK\$500	≤ HK\$200

d. One-time Charge for Circuit Bandwidth Upgrade/Downgrade/Reconfiguration /Relocation/Standby Service

The following table shows the charges by each Accredited Vendor for circuit bandwidth upgrade / downgrade / reconfiguration / internal relocation / external relocation / standby service:

Service	Capped Price ³ of One-time Charge (1-20M Circuit) ⁴ by Accredited Vendors (per circuit)		
	PCCW	HGC	Wharf T&T
Circuit Bandwidth Upgrade /Downgrade Charge	HK\$1,500	HK\$1,500	HK\$1,500
Reconfiguration	HK\$1,500	HK\$1,500	HK\$1,500
Internal Relocation ⁵	HK\$1,500	HK\$4,500	HK\$1,500
External Relocation (different building)	HK\$5,000	HK\$9,000	HK\$5,000
<u>Standby-service Charge (minimum two hours)</u>			
i. <u>Office hours</u> - <u>Monday – Friday 09:00am – 09:00pm</u> - <u>Saturday 09:00am to 01:00pm</u> ii. <u>Non office hours and Public Holidays</u>	- HK\$2,000 per hour (minimum 2 hours) - HK\$2,000 for subsequent hour	On-site: HK\$4,000 per hour (minimum 2 hours) Off-site: HK\$2,000 per hour (minimum 2 hours)	- Office hours: HK\$1,800 per hour (minimum 2 hours) - Non office hours and Public Holiday: HK\$3,000 per hour (minimum 2 hours)

³ Capped Prices for 1M to 20M Circuit Only.

⁴ CPs/DBs are advised to contact respective Accredited Vendors for prices of 30M and above circuits.

⁵ Relocation of circuit within the same building

e. Minimum Subscription Period and Termination Notice

For all SDNet/2 circuits, a minimum subscription period and advance termination notice are applicable.

Minimum Subscription Period	3 months
Advance Termination Notice	1 month

CPs/DBs should aware the terms and conditions for circuit subscription may vary among 3 Accredited Vendors. For details, please contact the Accredited Vendors.

Note: All prices provided in this information package are capped prices for reference only. CPs/DBs are advised to contact the respective Accredited Vendors for more information on actual prices, subscription terms and conditions.

2. Technical Specifications of SDNet/2

SDNet/2 services provided by all Accredited Vendors will meet the technical specifications set out by HKEX. The following paragraphs highlight the key technical specifications of SDNet/2.

a. Round-trip End-to-End Network Latency

The average end-to-end round trip latency of the circuits provided by the Accredited Vendors will be less than or equal to 1.5 milliseconds⁶ from the following districts in Hong Kong SAR to HKEX's Data Centres.

Region	District
Hong Kong Island	Central and Western
	Wan Chai
	Eastern
	Southern
Kowloon	Yau Tsim Mong
	Sham Shui Po
	Kowloon City
	Wong Tai Sin
	Kwun Tong
New Territories	Kwai Tsing
	Tsuen Wan
	Tai Po
	Sha Tin
	Sai Kung

b. Network Availability and Resiliency

All Accredited Vendors will provide a highly available and resilient network infrastructure under SDNet/2 services and conform to the following availability and resiliency specifications.

Resiliency Design	Specification
Overall Network Availability	Not less than 99.999%
Core Network Equipment Diversity	Multiple sets of core equipment such that a major network incident will minimize the impact to CP/DB Circuits.
Core Network Centre Geographical Diversity	Hong Kong Island: 2 Network Centres Kowloon: 2 Network Centres
Circuit Diversity	Dual Circuits of CP/DB will go through different network centres and access exchanges of the Vendor via separate fibre paths.
Network Resiliency	There is no single point of failure inside the Accredited Vendor's network centres and access exchanges.
Circuit Failover Time	< 2 seconds

⁶ The end-to-end latency is measured from the Accredited Vendor's access point in HKEX data centre to the CP/DB office.

3. Service Level

a. Service Level of Individual Circuit

The Accredited Vendors will provide the following Service Level Agreement (SLA) for each individual CP/DB circuit.

Service Level Measurement	Service Level Agreement (SLA)	
Service Provisioning Lead Time	< 14 calendar days	
Circuit Availability	99.999%	
Restoration Time	1 hour before market opens to 1 hour after market closes:	less than 1 hour
	Other hours:	less than 2 hours

b. Non-Compliance with SLA

During the minimum subscription period or agreed contract period, in the event of non-compliance with SLA, CPs/DBs have the right to terminate the individual SDNet/2 Circuit from their Accredited Vendors by giving one month advance notice if:

- i. the Circuit Availability for any single circuit (or for any individual circuit comprising a dual circuit) in any single calendar month is not met and neither is the Restoration Time in respect of such circuit fault at any time during that month; or
- ii. the Circuit Availability is not met for any single circuit (or for any individual circuit comprising a dual circuit) in any two calendar months within a period of 6 months.