



## **Enclosure 2 – SDNet/2 Accredited Vendors Information**

SDNet/2 services are provided by Accredited Vendors for the provision of communication links (Circuits) from IV locations to HKE<sub>x</sub>'s data centres.

To become an Accredited Vendor, the network vendor's SDNet/2 service must comply with the technical requirements set out by HKE<sub>x</sub>. The compliance of these technical requirements ensures that the Accredited Vendor will deliver a stable, reliable and high quality networking services to the IVs.

Initially, three Accredited Vendors have been selected and accredited to provide SDNet/2 network services. These vendors are (in alphabetical order):

- Hong Kong Telecommunications (HKT) Limited (also known as PCCW)
- Hutchison Global Communications Limited (HGC)
- Wharf T&T Limited (Wharf T&T)

### **1. Price of SDNet/2 Circuit**

SDNet/2 services are provided by the Accredited Vendors directly to IVs. IVs shall apply for the services and engage into commercial agreements with the Accredited Vendors directly. However, all Accredited Vendors shall offer SDNet/2 services to IVs according to a capped price scheme. Accredited Vendors should offer SDNet/2 services to IVs with prices not higher than the capped prices. Prices are applicable to both production lines and testing lines.

**Note:** All prices provided in this information package are intended for general reference purpose only. IVs are advised to contact the Accredited Vendors for more information on prices and subscription terms.



a. One-time Charge for New Circuit Installation

There is no one-time charge for installation of new SDNet/2 circuit.

b. Monthly Charge for Circuit Rental

The following table shows the capped prices of different bandwidth ranges by each Accredited Vendor.

Vendor	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 Circuit	≤ HK\$7,040	≤ HK\$7,800	≤ HK\$5,850
40M Circuit	≤ HK\$8,360	≤ HK\$8,600	≤ HK\$6,750
50M Circuit	≤ HK\$9,680	≤ HK\$9,400	≤ HK\$7,650
60M Circuit	≤ HK\$10,900	≤ HK\$10,200	≤ HK\$7,880
70M Circuit	≤ HK\$12,100	≤ HK\$11,000	≤ HK\$8,410
80M Circuit	≤ HK\$13,300	≤ HK\$11,800	≤ HK\$8,940
90M Circuit	≤ HK\$14,600	≤ HK\$12,700	≤ HK\$9,470
100M Circuit	≤ HK\$15,800	≤ HK\$14,000	≤ HK\$10,000
1G Circuit	≤ HK\$42,200	≤ HK\$32,000	≤ HK\$15,000



**One time Charge for Circuit Bandwidth Upgrade/Downgrade/Relocation**

The following table shows the charges by each Accredited Vendor for circuit speed upgrade/ downgrade/ internal relocation/ external relocation.

Service Provide	Capped Price of One-time Charge by Accredited Vendors (per circuit)		
	PCCW	HGC	Wharf T&T
Circuit Bandwidth Upgrade /Downgrade <sup>1</sup> Charge	HK\$1,500	Free	Free
Internal Relocation <sup>2</sup>	HK\$1,500	HK\$1,500	HK\$1,500
External Relocation	1M–20M :	HK\$5,000	HK\$5,000
	30M–100M :	HK\$17,760	
	1G :	HK\$44,400	

**c. Minimum Subscription Period and Termination Notice**

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

Minimum Subscription Period	3 months
Advance Termination Notice	1 month

**d. High Performance Option**

At the rollout of SDNet/2, some (but not all) Accredited Vendors offer a High Performance Option which is essential for supporting upcoming market data feeds of higher throughput, such as the streaming feeds. Please refer to the table below for the capped prices of the High Performance Option offered by the Accredited Vendors.

Vendor	PCCW	HGC	Wharf T&T
30M Circuit	≤ HK\$10,560	N/A	≤ HK\$6,410
40M Circuit	≤ HK\$12,540	N/A	≤ HK\$7,310
50M Circuit	≤ HK\$14,520	N/A	≤ HK\$8,210
60M Circuit	≤ HK\$16,350	N/A	≤ HK\$8,440
70M Circuit	≤ HK\$18,150	N/A	≤ HK\$8,970
80M Circuit	≤ HK\$19,950	N/A	≤ HK\$9,500
90M Circuit	≤ HK\$21,900	N/A	≤ HK\$10,030
100M Circuit	≤ HK\$23,700	N/A	≤ HK\$10,560
1G Circuit	≤ HK\$63,300	N/A	≤ HK\$15,560

<sup>1</sup> Circuit bandwidth downgrade is subject to terms and conditions of the service agreements between EPs and the Accredited Vendors

<sup>2</sup> Relocation of circuit within the same building



## 2. Technical Specifications of SDNet/2

SDNet/2 services provided by all Accredited Vendors meet the technical specifications set out by HKE<sub>x</sub>. The following paragraphs highlight the key technical specifications of SDNet/2.

### Round-trip End-to-End Network Latency

The average end-to-end round trip latency of the circuits provided by the Accredited Vendors is less than or equal to 1.5 milliseconds<sup>3</sup> from below listed districts in Hong Kong SAR to HKE<sub>x</sub>'s Data Centres.

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

### Network Availability and Resiliency

All Accredited Vendors 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 IV Circuits.
Core Network Centre Geographical Diversity	Hong Kong Island: 2 Network Centres Kowloon: 2 Network Centres
Circuit Diversity	Dual circuits of IV will go through different network centres and access exchanges of the network 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

<sup>3</sup> The end-to-end latency is measured from the Accredited Vendor's access point in HKE<sub>x</sub> data centre to the office of participant or information vendor.



### 3. Service Level

#### Service Level of Individual Circuit

The Accredited Vendors provide below Service Level Agreement (SLA) for each individual IV circuit.

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

#### Non-Compliance with SLA

During the minimum subscription period or agreed contract period, in the event of non-compliance with SLA, IVs 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.



## **4. Accredited Vendors Contact Information**

### **For Ordering, Billing and General Enquiry**

	<b>PCCW</b>	<b>HGC</b>	<b>Wharf T&amp;T</b>
Phone :	2888-2929 or dedicated Account Manager	8196-1238	2112-9000 (Sales)
Service Hours	Monday-Friday: 9:00 – 18:00 Saturday: 9:00 – 13:00 (except Public Holidays)	Monday-Friday: 9:00 – 18:00 Saturday: 9:00 – 13:00 (except Public Holidays)	Monday-Friday: 9:00 – 18:00 Saturday: 9:00 – 13:00 (except Public Holidays)  24-hour Hotline: 121-388
Email Address :	sdnet@pccw.com or E-Mail to dedicated Account Manager	sdnet_hotline@hgc.com.hk	sdnet@wharftt.com

### **24-hour Technical Support / Fault Reporting**

	<b>PCCW</b>	<b>HGC</b>	<b>Wharf T&amp;T</b>
Phone :	2888-8808	2121-1238	121-388
Email Address :	sdnet_support@pccw.com	sdnet_support@hgc.com.hk	sdnet_support@wharftt.com