Presentation for Consultation exercise on the regulation of IP Telephony for Legislative Council Panel on Information Technology & Broadcasting

by

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### **VoIP** is the future

- British Telecom, the UK incumbent, will convert all of its network, (29 million telephone lines) to VoIP by 2009
- Yahoo BB launched VoIP service in April 2002. It now possesses 5 million users in Japan
- Skype launched its service in August 2003. As of October 2004, Skype has served more than 2 billion minutes
- The major operator in the US, AT&T, launched VoIP service under the brand name CallVantage
- Major operators in the Mainland, including China Netcom and China Unicom, are engaging in the provision of VoIP service
- Hong Kong, where we acclaim to be technology pioneer, lags behind the global VoIP development



### **Two Types of VoIP Service**

### **1. On-net : VoIP service on self-built network**

- HKBN's self-built network consists of 100,000 core kilometers optical fiber
- No reliance on Type-II or leasing facility from PCCW
- Second largest operator in the residential telephone market
- Voice quality is indistinguishable from traditional service

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### **Two Types of VoIP Service**

### 2. Off-net : An Internet application

- Global example : Skype, YahooBB, AT&T, HGC Vfone, NWT
- Focus on PC / Internet Broadband users



### **VoIP is Mature and Well-tested**

- Undifferentiated voice quality
- Functions and usage are the same as standard telephone
- Supports value-added services, such as caller display, call waiting, conference call and call forward
- More advanced value-added services by web-based management :
  - > voice mail to email service
  - > sequential routing (home →office → mobile → voice mail)
  - > home, office, mobile simultaneous ringing



## **Advantages of VoIP Service**

- Huge IDD savings
- Alternative cheaper choice for consumers
- VoIP (\$48) + Mobile (\$80/700 minutes)
  - < Traditional telephone service (\$110 + \$27 VAS)
- Maintain HK's leading position as Asia's telecom hub
- Over 300,000 VoIP users in Hong Kong (estimated)



### **Common Concerns About VoIP**

 Can we identify the location of caller to 999 Emergency Service?

2. Can we use VoIP service when there is a power outage? (Or, is telephone service interruption mainly due to electricity outage or telecom network?)



### Q1. Able to locate '999' callers

#### On-net VoIP Services :

- > Emergency Location Mechanism in place --
  - HKBN has worked with the Hong Kong Police
     Force to operate a 24-hour hotline dedicated
     for emergency service
- Identify location by Caller Line Identification (CLI)
- Same mechanism as traditional telephone service
- > HKBN keeps a full record of all subscribers



### Q1. Able to locate '999' callers

#### Off-net VoIP service :

- Similar mechanism as traditional telephone service
- Customer address is recorded by service installation
- Good citizens" are obliged to inform their VoIP service provider for relocation for administration and billing purposes
- If VoIP adapter is moved to a new location without notification, VoIP service provider provides the IP address, and ISP can provide address information by IP address



### **Q2. Reliability of Electricity Supply is Much Higher**

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|  |  | ACTIVAL REDUITE   |  | Project Mode<br>Because of technical le<br>in Clause 0 will be the<br>Project Mode will be m<br>to provide the services<br>the customer as follow | fine (maximum of HEE2,00<br>mtations, orders that excess<br>ted as project mode. The s<br>utually agreed between PC<br>is within the agreed provision<br>re- | ed the maximum<br>Service Provisio<br>CCW and the cu<br>on lead time, wi | m number stated<br>m lead time unde<br>utomer. 17 we fa<br>e will compensat | H<br>H<br>H          |  |
| Electricity Supply   Reliability Rating of Electricity Supply  Average Notification Period before Planned Supersion of Electricity   | Better than 99.998%<br>7 days in advance                             | 99.999%   |  | Number of days late<br>10 days or less<br>More than 10 days   | One-off credit<br>5 percent of monthly rents<br>(maximum of HK\$3,000)<br>10 percent of monthly ren<br>ine (maximum of HK\$3,00                              | al of that line<br>Ital of that<br>10)                                   |   |                      |  |
| Average Time for Supply Restoration after Interruption of<br>Supply     Site Investigation for Power Quality Engaines  | Within 2 hours<br>Within 3 working days                              | l hour 24<br>minutes<br>Achieved                                |  | Service Restoration Targets Normal customers Fire hours   |  |  |   |                      |  |
| Connection of Supply<br>• Connection of Supply<br>-Not Requiring Inspection<br>-Neter Installation after Satisfactory Impection*<br>• Provide Impection Appointment for Customer   | Within the next working day<br>Immediate<br>Within 2 working days in | Achieved<br>New Service<br>Standard in 2004<br>Enhanced Service |  | Customers sufferships<br>PW customers (Cat, 1<br>for sites an outlying i<br>mathread areas<br>Service Availability T<br>There is no charge fo     | a tor 5,000+ data ends. Fo<br>to Cat, 5) Big<br>slands, hiltops and 24<br>are: 99,95 percent of th<br>54 unavailable 262<br>r DGF                            | our hours<br>ght hours<br>4 hours<br>4 hours<br>2 minutes per w          | a and   |                      |  |
| HITALISON**  | a 19 -hour time band   | Standard in 2004  |  | There is no additional  | price thanged for the DGF.   |  |   |                      |  |
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Actual reliability of electricity supply in 2003 is **99.999%** 





## **Solutions for Specific User Groups**

- Prohibition of VoIP service installation to specific groups, by means of :
  - > Code of practice, either voluntary or mandatory
  - License conditions
- Install backup power supply for VoIP adapter if user is using 'life-saving device" (救命鐘)



## Are Internet Applications "Free-rider"?

- VoIP is just an Internet Application
- Consumers have already paid for the internet bandwidth usage
- Guidelines & policies of HKIX, "HKIX is a settlement-free interconnection point. In other words, no settlement is to be paid by the peering participants for the incoming and outgoing traffic."



### **Encourage Investment and Competition**

Facility based investment / competition =
 Infrastructure + Applications

 Investment in infrastructure and applications are equally important



### **Enforcement of Telecom Ordinance**

- HKBN launched VoIP service on 1 Aug 2004
- Unable to receive signals from users of PCCW's Netvigator on the same night for 16 hours
- Signals from other ISPs, including its reseller such as HKNet and Pacific Supernet remained normal
- Complaint and report submitted to OFTA for investigation



#### **Blocking Transmission Constitutes Criminal Offence**

#### **Telecommunications Ordinance Section 24 :**

A telecommunications officer, or any person who, though not a telecommunications officer, has official duties in connection with a telecommunications service, who-(Amended 36 of 2000 s. 28)

(a) wilfully destroys, secretes or alters any message that he has received for transmission or delivery;

(b) forges any message or utters any message that he knows to be forged or altered;(c) wilfully abstains from transmitting any message or wilfully intercepts or detains or delays any message;

(d) otherwise than in pursuance of his duty or as directed by a court, copies any message or discloses any message or the purport of any message to any person other than the person to whom the message is addressed,

shall be guilty of an offence and shall be liable on summary conviction to a fine of \$20000 and to imprisonment for 2 years.

#### **Telecommunications Ordinance Section 27 :**

Any person who damages, removes or interferes in any way whatsoever with a telecommunications installation with intent to- (Amended 36 of 2000 s. 28)

(a) prevent or obstruct the transmission or delivery of a message; or

(b) intercept or discover the contents of a message,

shall be guilty of an offence and shall be liable on summary conviction to a fine of \$20000 and to imprisonment for 2 years.



# Together, we build a better Hong Kong!

