

FACT SHEET

Restoration capabilities of telecommunications operators in overseas places

Table — Restoration capabilities of telecommunications operators in overseas places

Date and source	Restoration capabilities
<i>Singapore</i>	
29 December 2006 News release jointly issued by Infocomm Development Authority of Singapore, Singapore Telecommunications and StarHub (Appendix I)	Telecommunications operators in Singapore: <ul style="list-style-type: none"> • IDD and Internet services were largely restored on 29 December 2006.
<i>Taiwan</i>	
4 January 2007 News release issued by Chunghwa Telecom (Appendix II)	Chunghwa Telecom: <ul style="list-style-type: none"> • Over 99% of the international private leased circuits had been restored as of 4 January 2007. • Damaged cables were expected to be completely repaired between 18 and 25 January 2007.
<i>Japan</i>	
17 January 2007 News release issued by NTT Communications Corporation (Appendix III)	NTT Communications Corporation: <ul style="list-style-type: none"> • Communications services had been restored as of 16 January 2007. • Damaged cables were expected to be comprehensively repaired by the end of February 2007.
13 February 2007 News release issued by KDDI Corporation (Appendix IV)	KDDI Corporation: <ul style="list-style-type: none"> • Damaged cables were completely restored on 12 February 2007.

Research and Library Services Division
13 April 2007
Tel: 2869 9602

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Appendix I

Net Disruption Updates

Background

An earthquake measuring 7.1 on the Richter scale struck Taiwan on the night of 26 December 2006. The quake's impact, which wreaked havoc on land, also shot deep into the ocean to rupture the cable systems that lay on the seabed. The cable systems provide telecommunications links among countries in the region, and from the region to the rest of the world. Consequently, much of Asia's Internet connectivity slowed to a crawl on Wednesday 27 December. Since the night of the quake, operators, who are part of various consortia that own these cable systems, have been working round the clock to restore the affected systems. By Friday afternoon, 29 December, Internet connectivity in Singapore was largely back to normal.

29 December 2006 - Web Surfing in Singapore Largely Back to Normal

Singapore | For Immediate Release

Online surfing returned largely back to normal for Internet users in Singapore on Friday afternoon, after the Taiwan quake ruptured undersea data cables on Tuesday and caused a regional Web slowdown.

Operators in Singapore have been working round the clock since Tuesday to redirect cable traffic to ensure continuity for its business users and consumers.

Singapore telcos SingTel and StarHub have successfully re-routed Web traffic to the unaffected cable systems and have restored IDD services and Internet traffic to near normal speeds for popular activities like e-mailing, online transactions and Web browsing. However, users of bandwidth-intensive applications, such as online gaming and video conferencing may still face delays.

Restoration works on the affected cable systems are under way.

JOINTLY ISSUED BY CORPORATE COMMUNICATION DIVISIONS OF THE
INFOCOMM DEVELOPMENT AUTHORITY OF SINGAPORE, SINGAPORE
TELECOMMUNICATIONS AND STARHUB

Source: *Infocomm Development Authority of Singapore*. (2006) Available from:
<http://www.ida.gov.sg/News%20and%20Events/20070104194152.aspx?getPagetype=20>
[Accessed 12 April 2007].

Appendix II**CHT News****99% of the IPLC Back to Normal Transmission**

Since the past week, the CHT network team has engaged in restless efforts in communicating and coordinating with overseas telecommunications partners on restoring connection. Traffic toward many destinations in Asia have been seriously impaired as a result of the recent earthquake in southern Taiwan.

At this time, almost all IPLCs have been recovered as of this morning (Jan. 4, 2007) except 9 circuits, which accounts for less than 1% of the total IPLCs. CHT will keep in close contact with our clients and update the latest recovery status at all times.

The voice services are also mostly recovered and available globally, while the seriously impaired regions of Indonesia, Malaysia and the Philippines have also reached an overall completion rate of 40%. CHT is still seeking overseas partners for assistance in providing restorations via transit routing through cables and satellites, while the overall network performance is approaching to normal.

With regard to the projected recovery timetable of the damaged cables: CHT has also actively approached and made arrangements with cable ship companies. Five foreign cable ships (KOL, Retraver, Segero, KPL, Restorer) will take part in the repair work, and have begun to arrive Taiwan since yesterday morning (Jan. 3, 2007). They will reach the outage area near the outer Pingtung sea region for inspection and repair. The recovery process is expected to be realized within 2 or 3 weeks.

Source: *Chunghwa Telecom.* (2007) Available from:
<http://www.cht.com.tw/CHTFinalE/Web/AboutUS.php?CatID=246&NewsID=140&Page=HotNewsDetail0> [Accessed 12 April 2007].

Appendix III

January 17, 2007

News Release

NTT Communications Corporation

NTT Com Restores Services Disrupted by Taiwan Earthquake

TOKYO, JAPAN -NTT Communications (NTT Com) announced that as of January 16, 10:19 p.m. (JST) it had restored all communications services that were disrupted after undersea cables were damaged by an earthquake off Taiwan's southwestern coast on December 26. The services will be fully recovered when cables are comprehensively repaired by the end of February 2007.

Through measures such as rerouting and collaboration with its extensive network of carriers, NTT Com has restored its data transmission (IPLC, IP-VPN, frame-relay, ATM), Internet connection, and optional international telephone services as follows.

Data transmission services for corporate users

- IPLC: All 146 lines were restored by January 16, 2007
- Frame-relay: All 18 lines were restored by December 28, 2006
- IP-VPN: All 71 lines were restored by December 27, 2006
- ATM: All 14 lines were restored by December 30, 2006

Internet connection service

- Global IP network service: IP backbones in Asia have been restored by December 29, 2006. Delays may occur due to congestion during peak demand times.

International telephone services

- All optional international telephone services (toll-free and prepaid telephone card services) have been restored for calls to Japan from the nine countries and areas where problems were reported: Australia (December 29), Hong Kong (December 30), Indonesia (December 29), Malaysia (January 10), Singapore (January 9), Sri Lanka (December 29), Taiwan (December 27), Thailand (December 29), and Vietnam (January 8).
- Regular international telephone services may still sometimes face connection difficulties due to relaying over overseas' carriers' networks.

We apologize for any inconvenience this may have caused.

Source: *NTT Communications Corporation*. (2007) Available from:
http://www.ntt.com/release_e/news07/0001/0117.html [Accessed 12 April 2007].

Appendix IV**KDDI Announces Restoration of Undersea Cables Destroyed by the Taiwan Earthquake**

KDDI Corporation

2007/02/13

On Tuesday, December 26, 2006, an earthquake which occurred off the southwest coast of Taiwan destroyed the fiber-optic undersea cables found in 19 regions in 9 cable systems over an area of approximately 250 km, resulting in international communication disruptions in Hong Kong, Singapore and most of South-east Asia.

KDDI apologizes for the inconvenience that this has caused to our customers.

KDDI utilized satellite and other undersea cables to implement emergency detouring measures for its international communication service while working closely together with the telecommunication operators in relevant countries.

KDDI also jointly worked with seven countries, two regions and nine telecommunication operators to carry out restoration work on the undersea cables destroyed.

As the owner and corporation responsible for the maintenance of the cables, KDDI dispatched two repair cable ships (KDD Ocean Link and KDD Pacific Link) operated by its subsidiary company, Kokusai Cable Ship Co., Ltd to carry out the restoration work.

We are pleased to announce that following the completion of restoration of the China-U.S., Sea-Me-We3, APCN routes, KDDI's main route, APCN2 and the FLAG route were also restored on 10th and 12th February respectively.

With this, the undersea cables in the relevant regions have been restored close to pre-disaster conditions, and services disrupted by this earthquake are fully restored.

KDDI has been diversifying its undersea cable routes, but we view the consequences of this disaster seriously. Hence, we will continue to work on constructing a more reliable communication network.

Source: *KDDI Corporation*. (2007) Available from:
http://www.kddi.com/english/corporate/news_release/2007/0213a/index.html [Accessed
12 April 2007].