創新、綠色設計的數據中心空調系統
# Innovative, Green Design for Data Centre's Air-Conditioning System

我們的小蠔灣數據中心主要負責為政府部門提供數據儲存服務，其中包括食物及衞生局的電子病歷檔案儲存。我們率先為小蠔灣數據中心的空調系統採用了創新的環保高效節能設計，預計可以提高整體散熱效能達20%至30%，此舉是支援客戶部門的環保措施。

這套獨特的空調系統是位於服務器機房內，採用一個屏蔽式熱氣流通道設計。該設計是由一個鋁質框架，利用聚碳酸酯隔板置於服務器機架頂部及每行機架兩旁所組成。屏蔽式熱氣流通道設計是一個高成本效益的解決方案，能把冷和熱的空氣分隔在不同的通道中。


我們全力支援小蠔灣數據中心的電子病歷檔案儲存工作。
Our team is dedicated to give full support to the Siu Ho Wan Data Centre for protection of the Electronic Health Record.
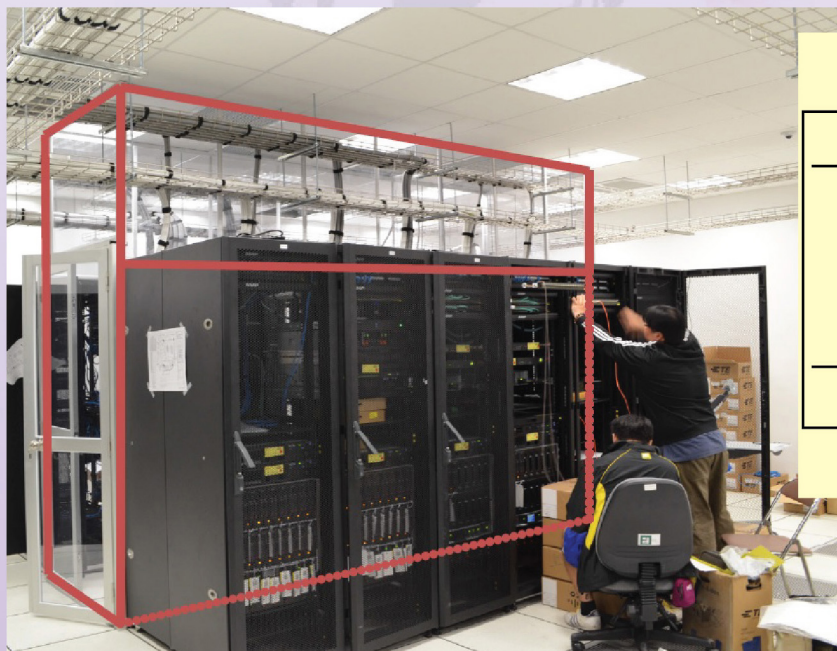
我們於服務器上加建熱氣流通道，將冷和熱的空氣分隔在不同的通道中，以求達至最佳散熱效能。
We are building a hot aisle containment separating hot and cold aisles in the server room to achieve the best cooling efficiency.

熱空氣通過假天花收集到回風管
Collect hot air via false ceiling returning to the air duct
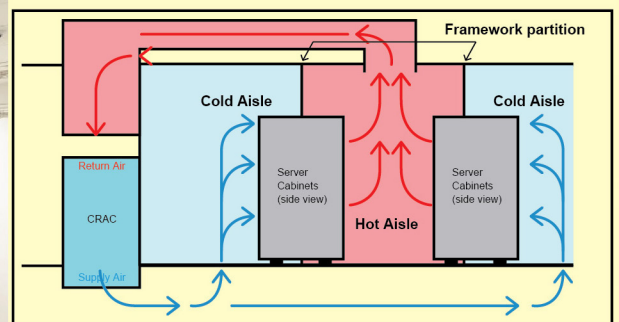
冷空氣由地板下的開口輸出
Cool air via under-floor openings

高效節能的空調系統運作圖。
Operation diagram of the Energy-Efficient Air-Conditioning System.

以物理屏障完全分隔冷熱氣流通道，能防止再循環和旁通的氣流影響服務器設備上部分的冷卻效能。該系統除了全天候24小時為所有服務器提供更好的散熱環境外，電腦控制的空調機組的送風和回風溫度可相應提高，使空調機組發揮較高的冷卻效能。

該節能空調系統乃數據中心第二期擴建工程的一部分，項目於2013年2月開始，預計於2014年年中完成。

Siu Ho Wan Data Centre is responsible for the storage of data for various government departments and the Electronic Health Record of the Food and Health Bureau is one of them. Our initiative to redesign its air-conditioning system with innovative, energy efficient measures is expected to improve the overall cooling efficiency by 20% to 30% as a green measure to support client departments.

This unique air-conditioning system comprises a hot aisle containment design in the server room. Formed by an aluminium framework with polycarbonate inserts on top of the server racks and at the two ends of the row, the hot aisle containment is a cost effective solution to contain air in cold and hot aisles.

This physical barrier divides the cold and hot aisles completely, preventing both re-circulation and bypass air which significantly affect the cooling performance on the upper part of the server equipment. Providing better thermal condition to all servers 24 hours round the clock, the system also allows higher supply air temperature and the warmest possible returned air back to the computer air-conditioning (CRAC) units, so as to operate in an efficient manner.

The energy saving air-conditioning system is part of the Phase II expansion of the data centre, construction of which started in February 2013 and is scheduled for completion by mid-2014.