

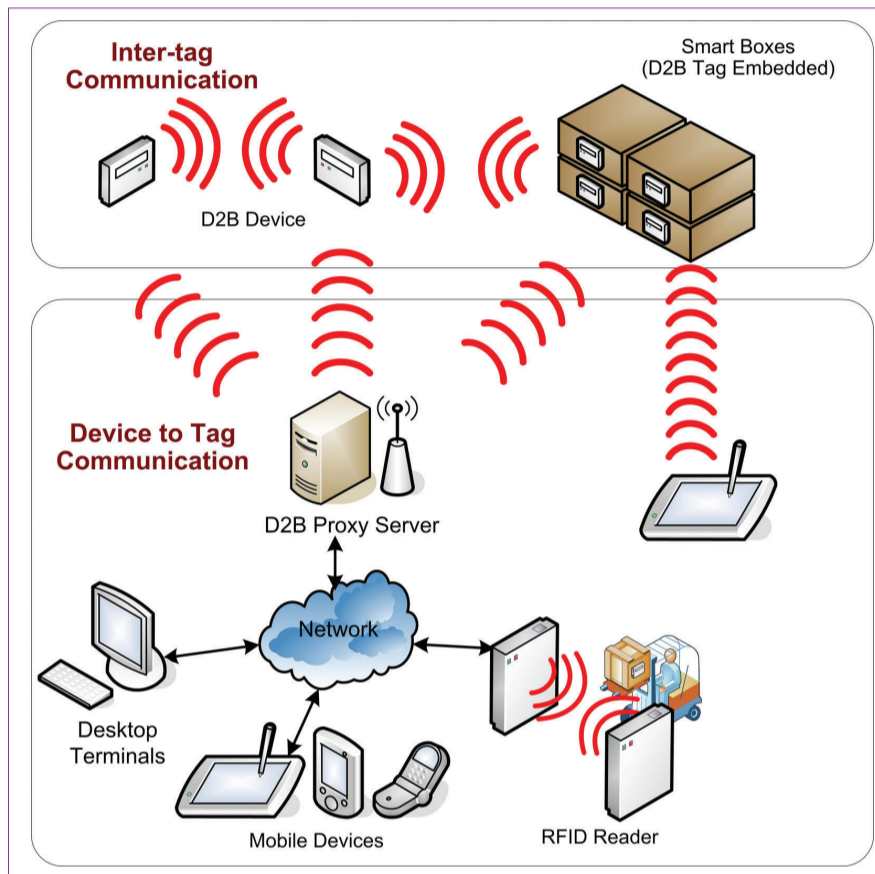
D2B™裝置技術及其應用

Device-to-Business (D2B™) Technology and Applications

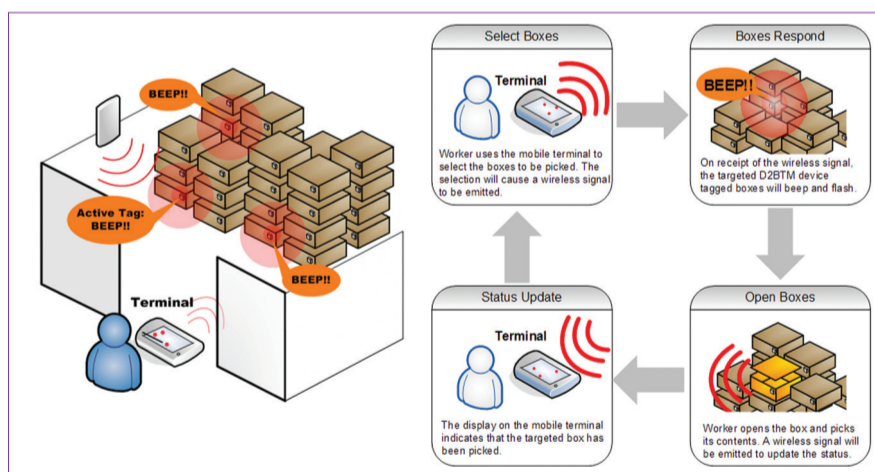
一種智能無線電子裝置，內置傳感器以提供自動化的商業方案

An intelligent wireless electronic device with built in sensors which provide automatic functions to the business

傳統RFID標籤與閱讀器方案可能不足以提供精密的商業自動化及過程控制。為了進一步伸延無線通訊的可能性，香港理工大學顧問小組遂開發了Device-to-Business (D2B™) 裝置。



D2B™ 裝置的應用方式
Applications of the D2B™ Devices



圖解及電子標籤配貨應用的工作流程
Illustration and Work Flow of Location Alert Application

Traditional RFID tag-and-reader solutions may not be adequate to provide sophisticated business automation and process control. To further extend the possibility of wireless communications, the Device-to-Business (D2B™) technology developed by Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University.

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特色與優點

D2B™裝置是一種智能無線電子裝置，內置傳感器以提供自動化的商業方案。圖一顯示已設有D2B™裝置的流動終端器及聰明箱

- 可於40至 60米的範圍內相互感應運作
- D2B™裝置之間可互相通訊，提供一個寬闊的傳訊空間
- 利用不同動態的途徑，提示資訊給用家（如：聲音、光線顏色及文字訊息等）
- 連接外部的感應器，以加強監察環境因素
- 藉著使用D2B™代理伺服器，允許連接不同類型的裝置 (如圖二)

應用

D2B™裝置提供不同的界面，帶來環境與使用者之間的互動。應用這技術能支援先進的物流運作和管理，實現最佳的倉庫營運效率與追蹤貨物能力。圖三展示這裝置可應用於促進定位及揀選特定的貨物



已設有D2B™裝置的(a)流動終端器及(b)聰明箱
D2B™ Device Tagged Mobile Terminal and (b) D2B™ Device Tagged Container

Special Features and Advantages

D2B™ device is an intelligent wireless electronic device with built in sensors which provide automatic functions to the business. Figure 1 shows a D2B™ device tagged mobile terminal and two D2B™ tagged containers

- Operation range of approximately 40-60m for each device
- Inter-tag communication to provide a wide range of hardware extensively for acknowledging the D2B™ device's neighbour
- Dynamic interaction with user(e.g. sound, light, text messages)
- Connection with external sensors to enhance functionality to monitor the environmental factors
- Connection with various types of market available devices (see Figure 2)

Application

Since the active RFID embedded D2B™ device provides various types of interface for interaction with the environment and the operator, it offers unlimited potential for innovation. Applications that enable smart logistics operations are made possible by the use of this technology. In particular, both object traceability and operational efficiency of warehouse operations can be enhanced by such applications. As shown in Figure 3, the D2B™ device could be applied to facilitate the location and picking of a specific item in the warehouse



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