



WENSHING ELECTRONICS CO.,LTD.



Active RFID System

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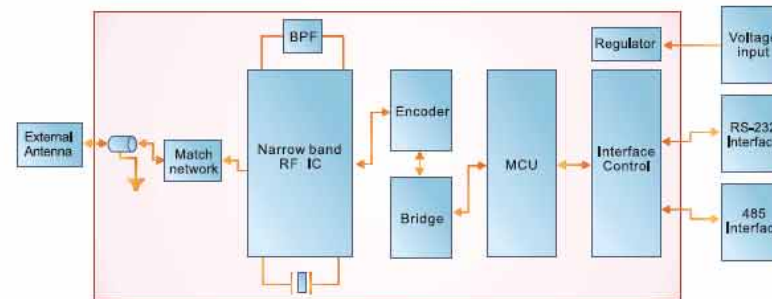
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產品規格

Specification Parameter					
Item	Active Reader	Wristband Active Tag	Card Hold Active Tag	Asset Active Tag	RFID KEY
Image					
Multi-Tag Read Capability	Yes	Yes			
Functionality	Wakes up tags				
Modulation	GFSK	PSK			
Frequency	925~928 MHz	868MHZ / 902~928MHZ			
Data rate	9600~36k bit/s	9600~550k bit/s			
Transfer mode	Duplex	Duplex			
Range Setup	Setup by user				
Read range (maximum)	100m	100m			
Host Communications	RS-485				
RF power output	-45dBm ~ +10dBm	-20dBm ~ +10dBm			
Sensitivity	-96dBm ~ -108dBm	-96dBm ~ -105dBm			
Power	12Vdc, 60Ma CR-2032 OR CR-2025				
Case Material	ABS (Acrylonitrile Butadiene Styrene)		ABS (Acrylonitrile Butadiene Styrene)		
Temperature	Operating	-15C to +60C (-31F to +122F)			
	Storage	-40C to +85C (-40F to +185F)			
Humidity	100% Non-condensing		101% Non-condensing		
Indicators	LED on while transmitting packet to tag.				
Interface	RF: Internal Antenna / Digital: RS485				

Item	Active Reader	Wristband Active Tag	Card Hold Active Tag	Asset Active Tag	RFID KEY
EMI	10V/m 0.1~1000MHz AM electromagnetic wave	10V/m 0.1~1001MHz AM electromagnetic wave			
Mounting	Super RFID mounting kit				
Battery Life	1~3 years depending on use (tag has low battery detection)				
Use Memory	512 bit				
Free Drop	1M concrete floor, twice per sid				
Dimensions		47 mm x 32 mm x 11 mm	89 mm x 57 mm x 70 mm	43 mm x 30 mm x 11 mm	33 mm x 65 mm x 11 mm
Tag Sensor	IR Detect	Alarms if tag removed from person - Asset			
	Temperature	Alarms if exceeds predefined limits			
	Micro Switch				On/Off Sensor
	Buzzer	Beep when called - Low Battery			
	Shock				
Response time(100ms)		IR - Micro Switch - State Switch detect response time			Detect response time



※The information contained in this document is subject to change without notice or obligation.



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Active RFID 主要功能

❖ RF

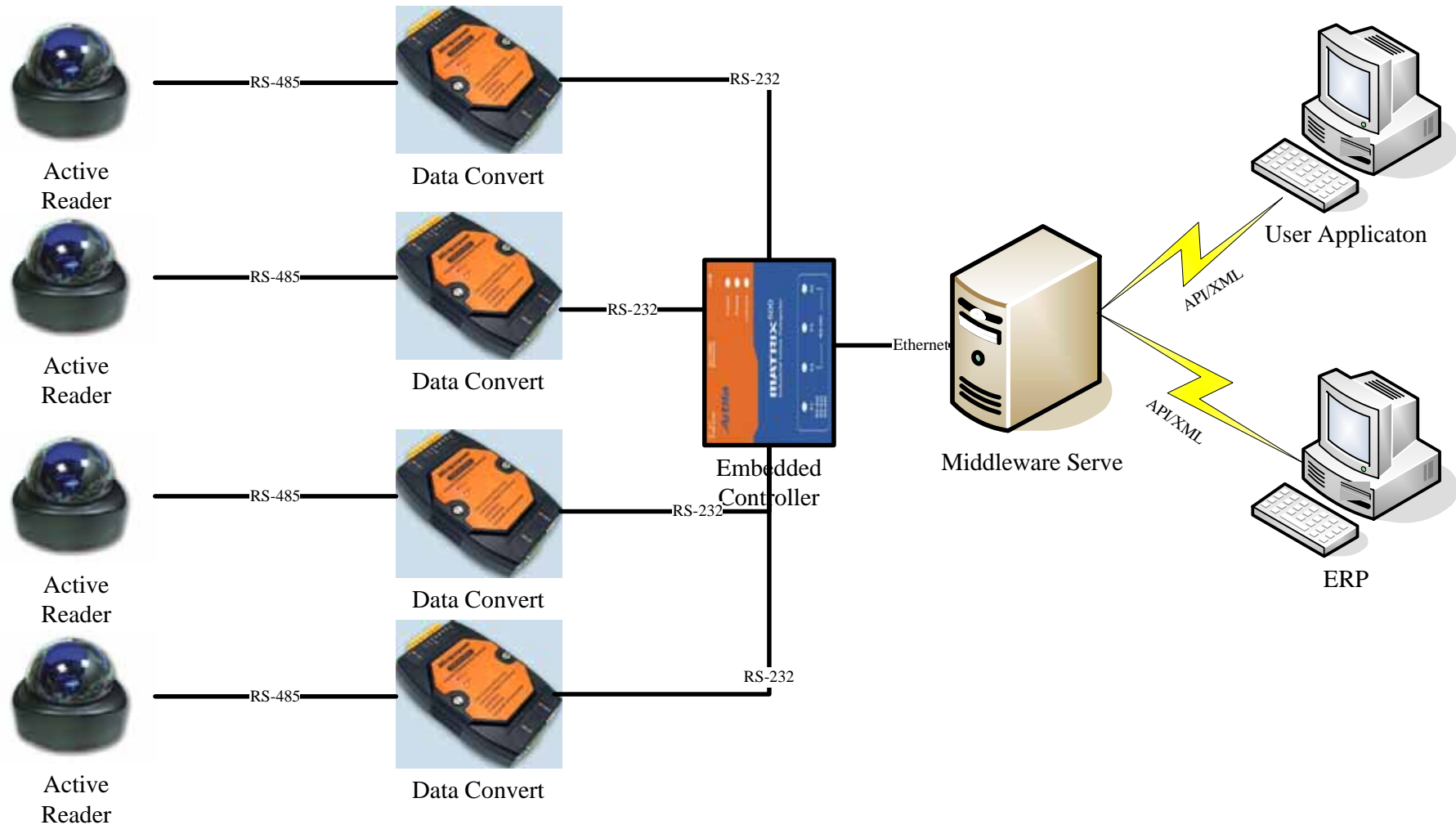
- 3秒可收到150個Tag
- 感應範圍100M區域（直徑）
- 可設定感應範圍及感度
- 入場域主動觸發

❖ Sensor

- Motion Sensor
- IR Detect Sensor
- Switch On/Off
- 溫度偵測
- 低電壓警示



系統架構圖



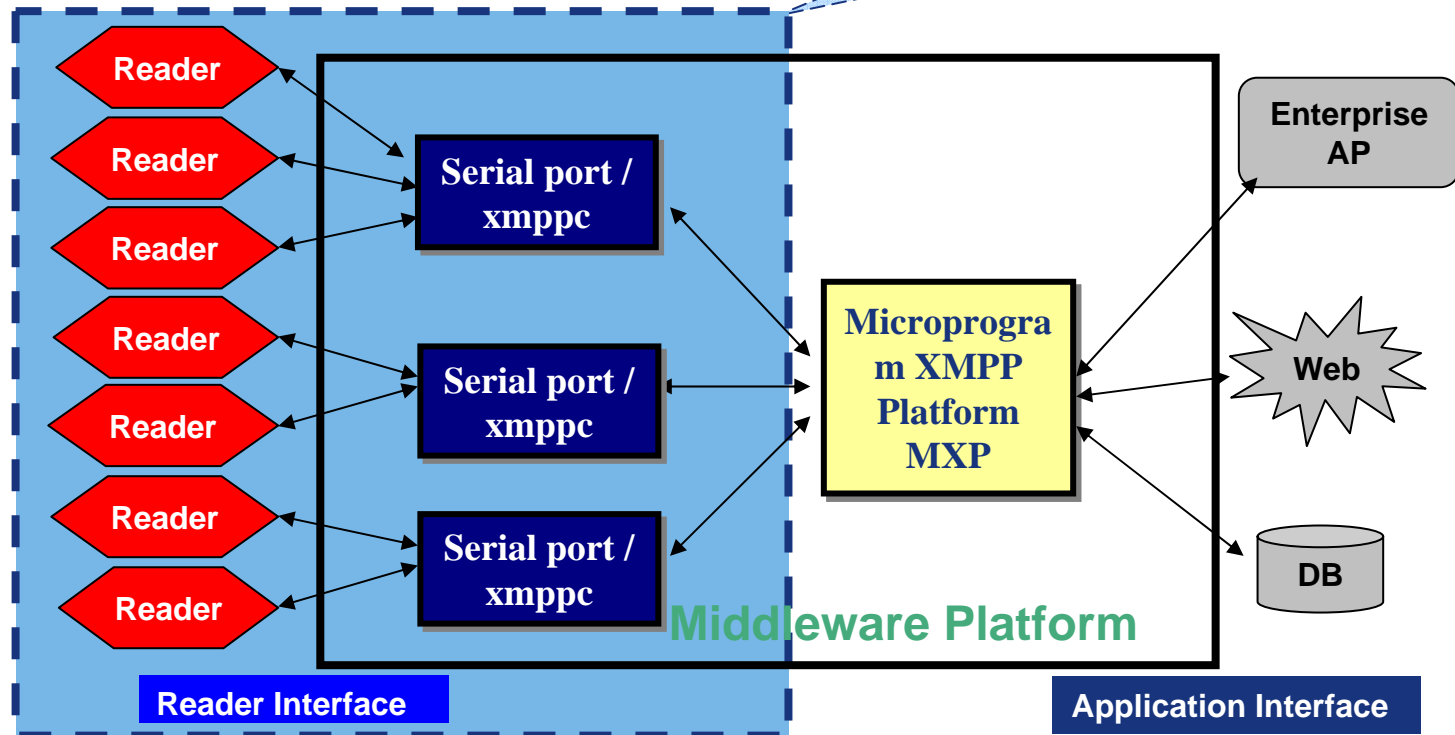
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RFID Middleware Platform 系統架構

- ☑ 前端資料過濾及收集，提高資料讀取率
- ☑ 減少後端 Server 之負載，提高資料傳送對外處理能力

將Reader「資料收集」功能和中介軟體「資料過濾」、「資料處理」功能整合至單一平台上





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RFID Middleware Platform 特色

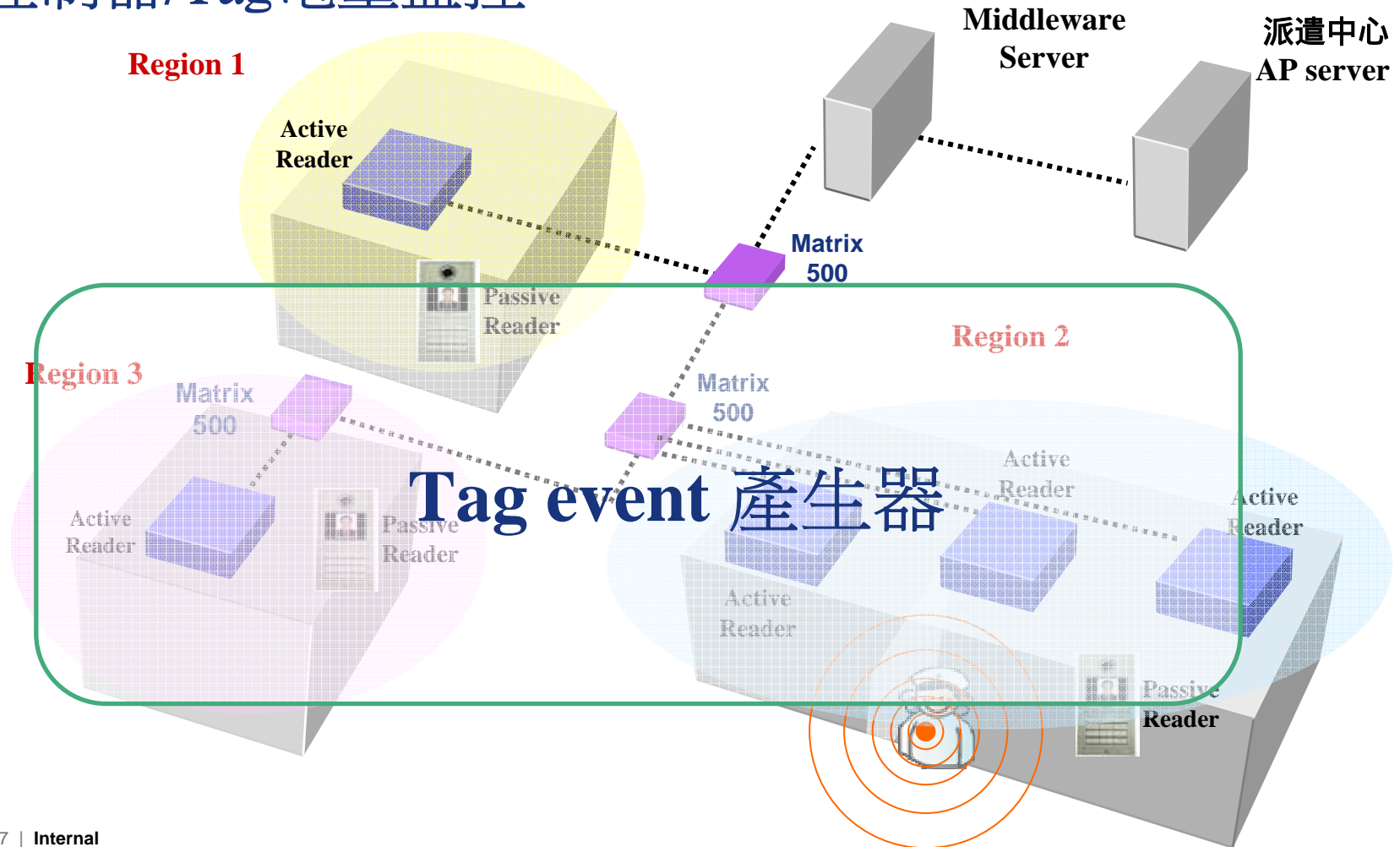
- ❖ 檔案式結構，可承受大量資料存取。
- ❖ 檔案結構描述資料，可以隨時定義輸入Reader及格式。
- ❖ 可承受超過10,000個Reader存取。
- ❖ 每日儲存處理資料可超過10G byte Log。
- ❖ 完整的API存取規劃，大量降低程式開發的難度。
- ❖ 完整的RFID Middleware API Specification。



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Middleware Platform

控制器/Tag電量監控



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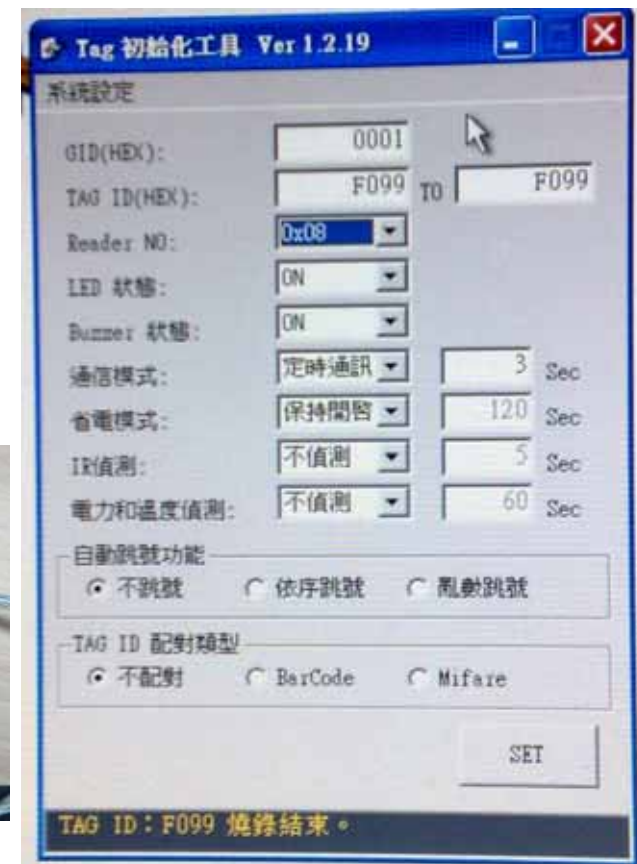
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主動式Tag

❖ 透過紅外線設定相關參數

透過紅外線燒碼

- 固定通訊時間
- 省電模式
- IR偵測時間
- 電力及溫度偵測



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Active RFID Solution

❖ Active RFID 人員追蹤

- 手腕型、識別卡型、資產型

❖ Active RFID 門禁管理

- RFID I-Key

❖ Active RFID 桶槽管理

- 雙天線偵測



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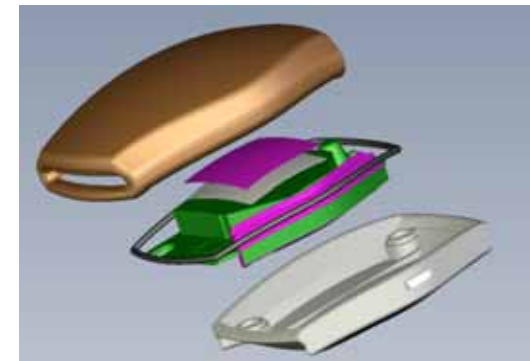
RFID手腕型 Tag

❖ RFID手腕型Tag

- 內建震動開關
 - 用以偵測人員有無動作
- 內建紅外線偵測器
 - 用以偵測人員有無攜帶Tag
- 省電模式



實體照片



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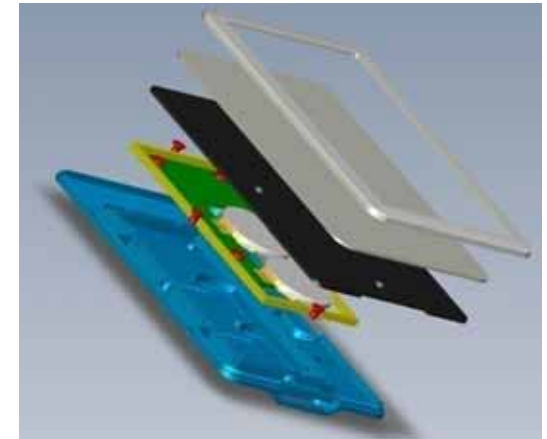
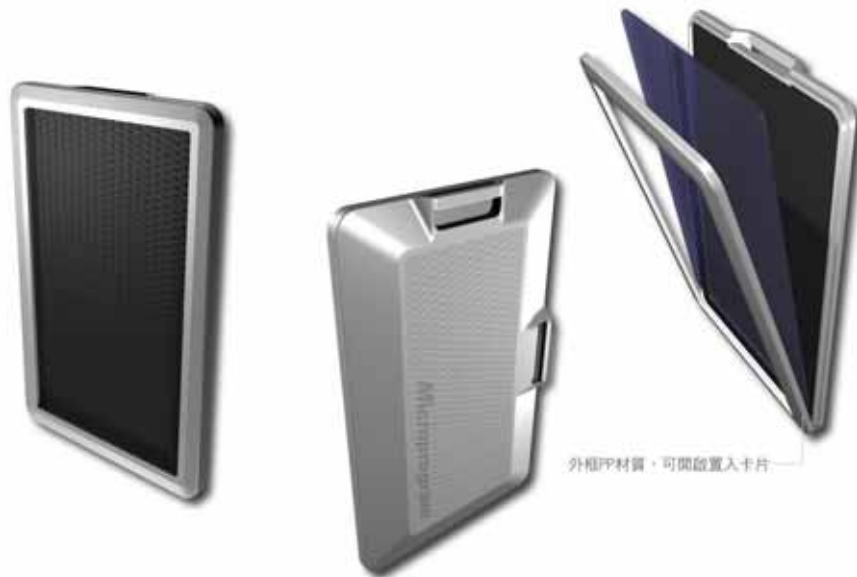


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RFID識別卡型Tag

❖ RFID識別卡型Tag

- 內建震動開關
 - 用以偵測人員有無動作
- 具備省電功能



實體照片

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RFID資產型Tag

❖ RFID資產型Tag

- On/Off Micro Switch
- Status DIP Switch



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RFID I-Key型Tag

❖ RFID I-key型Tag

- 內建震動開關
 - 用以偵測人員有無動作
- 具備省電功能



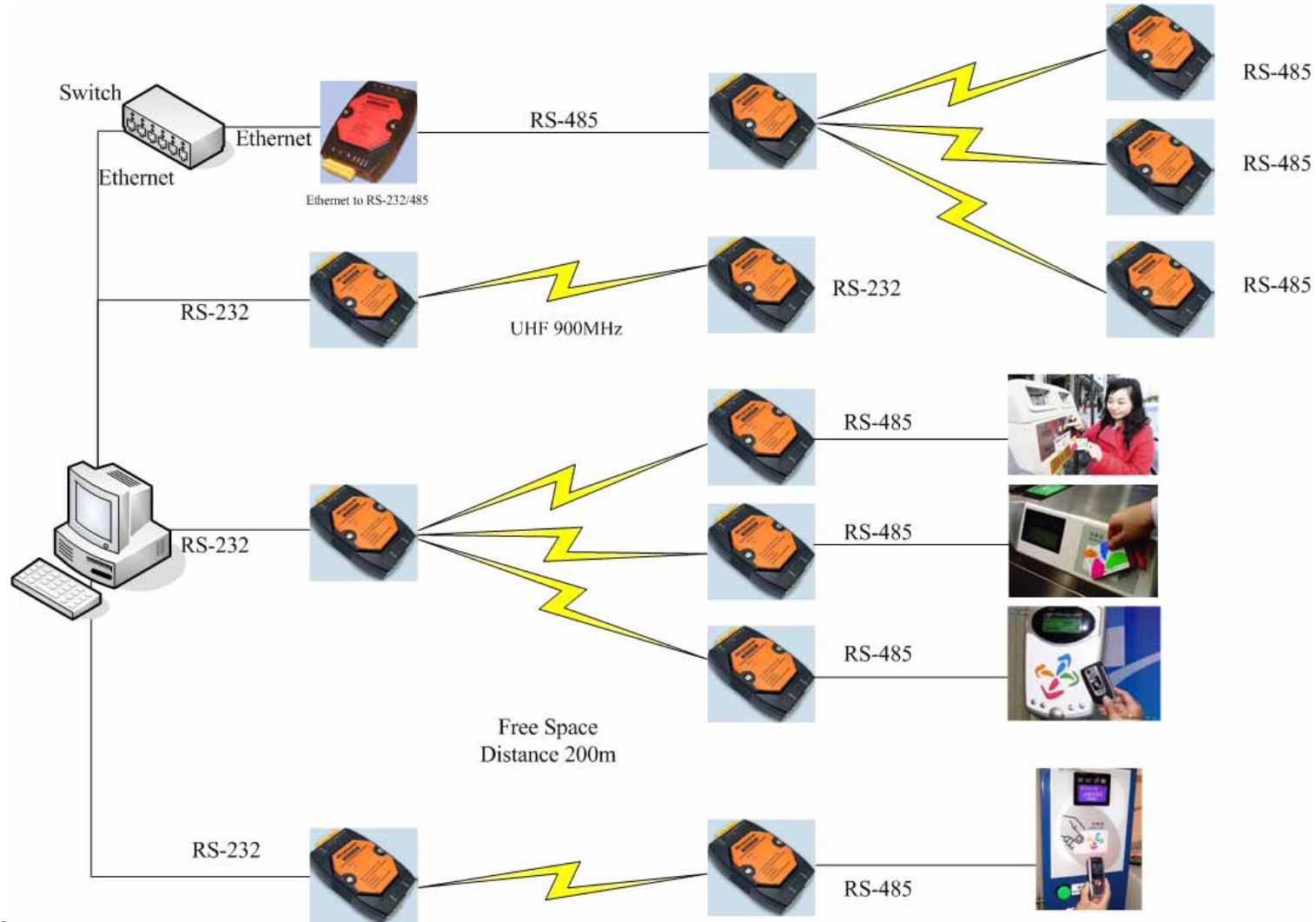
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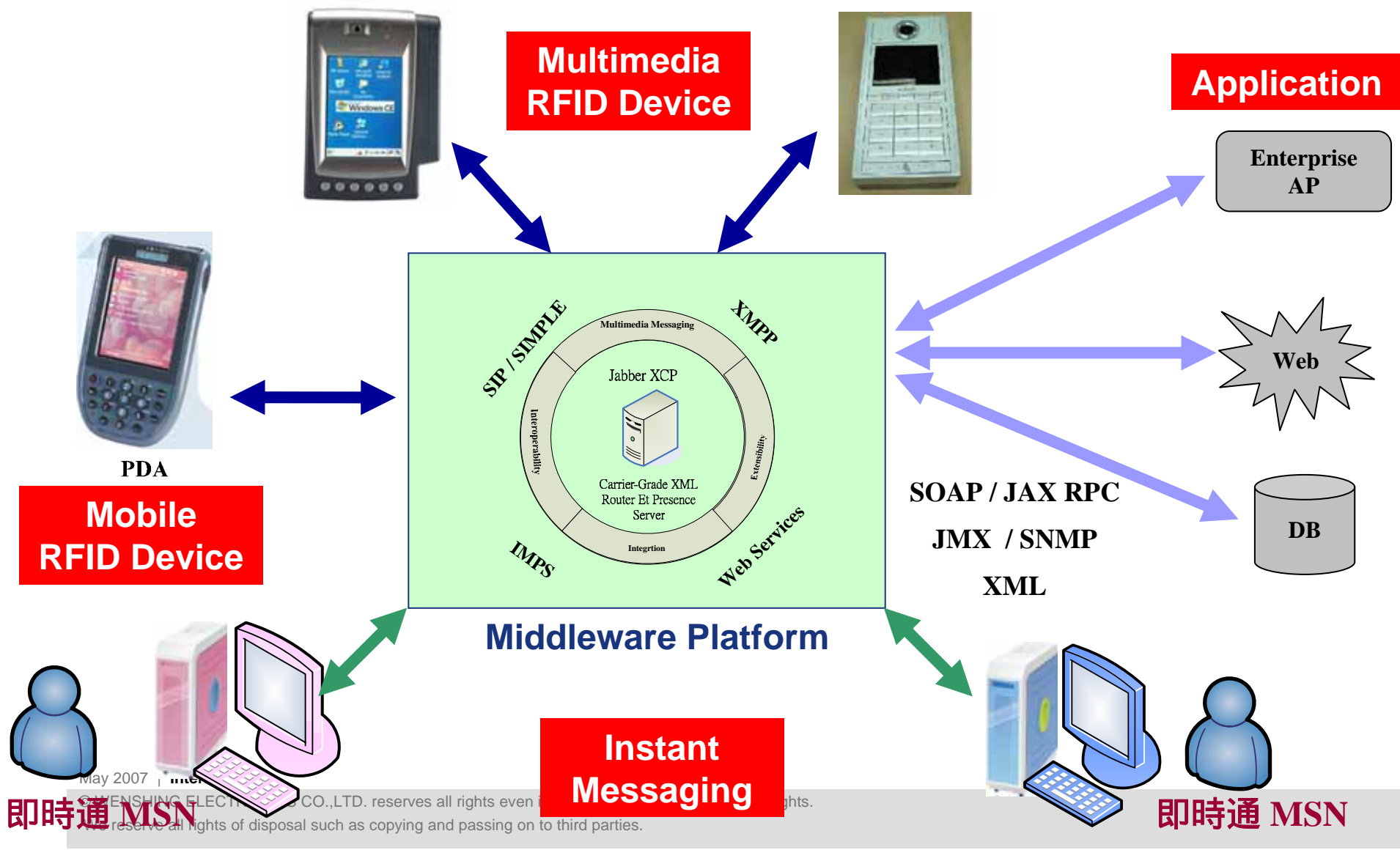
RFID Data Converter Solution





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RFID多媒體整合應用





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相關應用介紹

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醫院院區裝置示意圖(一)

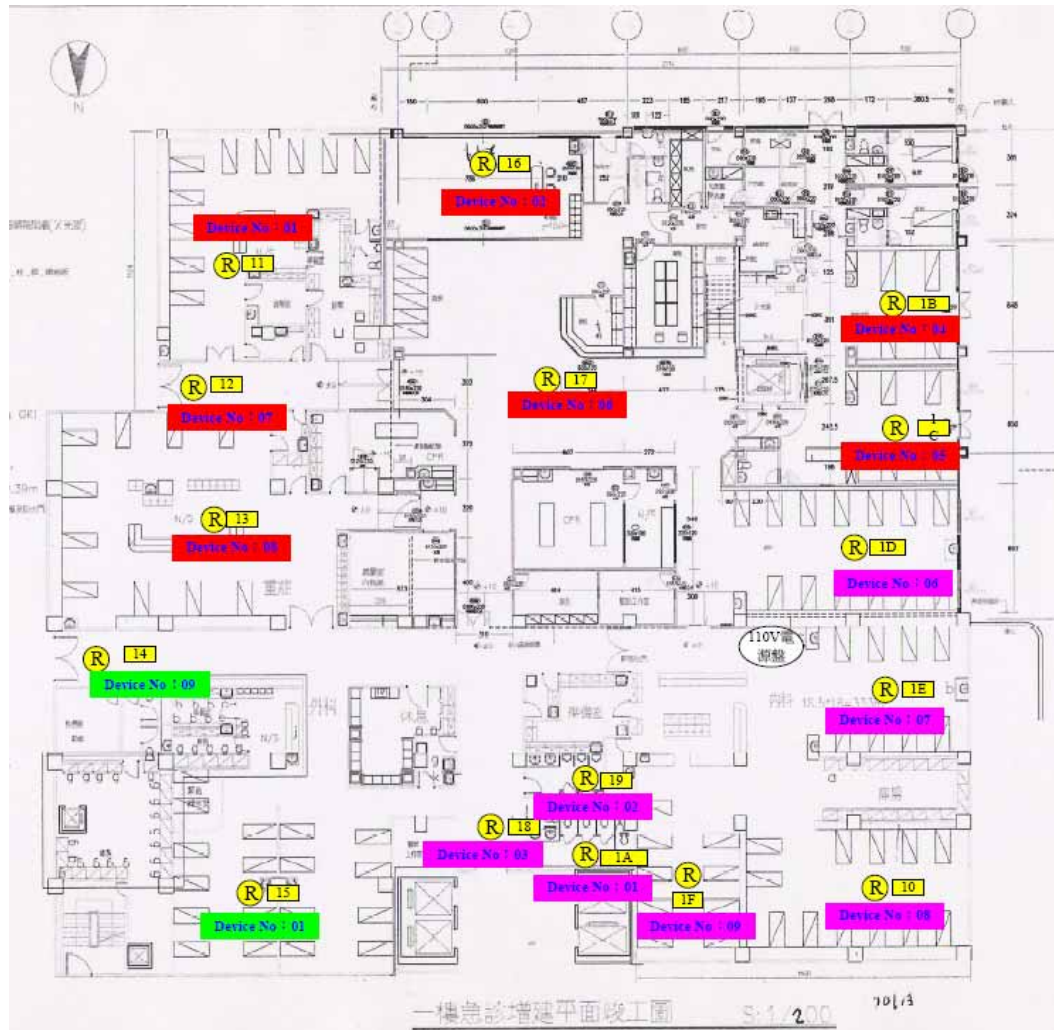
- ❖ 將Reader裝置於醫院院區，可管理醫院院區情形：
 - 手腕型Tag可偵測病患狀況，隨時回報給醫護人員相關狀態。
 - 資產型Tag追蹤設備器材位置，有效管理醫院的資產。
 - 識別卡型Tag可提供管理功能，紀錄人員進出醫院的情形。





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醫院院區裝置示意圖(二)



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人員追蹤

- ❖ 透過區域定位，可準確監控Tag所經過的位置及路徑，提供人員及物品的偵測。

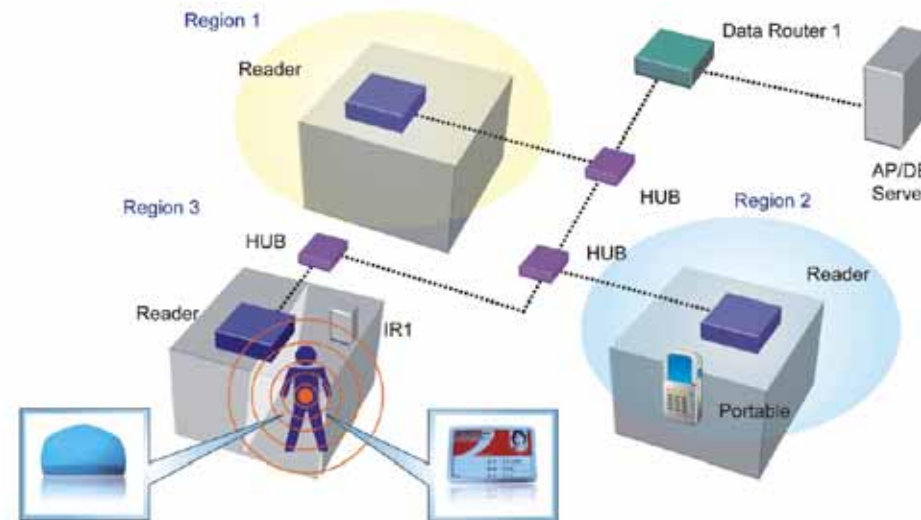
Applied Domain for Active RFID

Active RFID Solution can Apply to People Location, Vehicle Management, Assets Management/Security/Tracking, Container Management, House Entrance Guard/Auto Control, Factory Security, Vehicle Start Control, Wireless Perception.

- ❖ 透過Motion Sensor可偵測人員是否有被再移動。

- ❖ 透過IR Sensor監控Tag是否有被移開，如有異動，主動通知管理者。

People Location





停車及資產管理

- ❖ 透過Motion Sensor 可偵測Tag是否有被搬動，如有異動，則主動通知管理者。
- ❖ 透過IR Sensor監控Tag是否有被移開，如有異動，則主動通知管理者。
- ❖ 偵測資產是否在此監測空間，如有異動，則主動通知管理者。

Vehicle Management



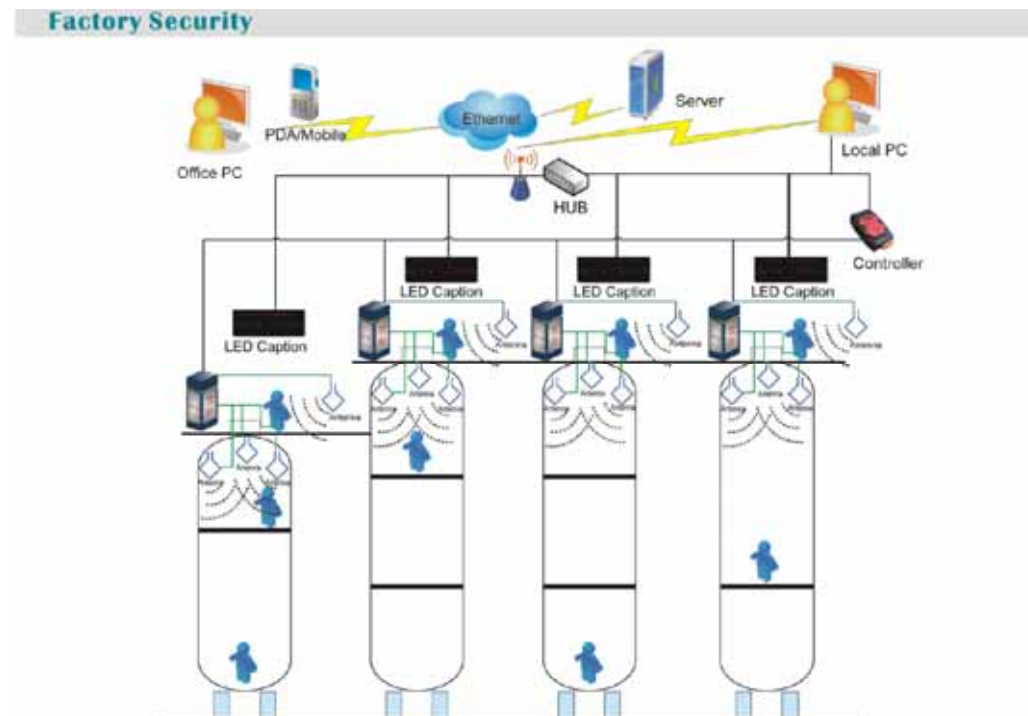
Assets Management/Security/Tracking





工廠安全管理（侷限空間管理）

- ❖ 監控進入及出去的時間點，提供管理者使用。
- ❖ 透過Motion Sensor 可偵測人員是否持續動作中。
- ❖ 透過IR Sensor監控Tag是否有被移開，人員是否有帶著Tag。





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家庭自動化管理及車輛發動系統

- ❖ 以主動身份辨識人員，提供家庭自動化管理使用，創造更多貼心的服務。

House Entrance Guard/Auto Control



Vehicle Start Control





箱櫃管理

- ❖ 用以偵測倉庫大型箱櫃等，提供箱櫃異動位置及相關地點、時間監控管理。

Container Management





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溫度記錄

- ❖ 需處於低溫運輸的產品，在運輸過程中須持續保持低溫，則可利用具溫度感應功能的Tag，自動偵測運送過程中產品的溫度變化，當溫度發生異狀時，在第一時間內立即提供資料給相關人員處理。



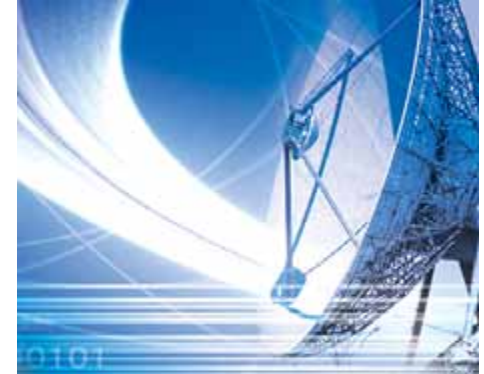
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