



Insight2014 大數據高峰會

千思萬想 · 一瞬在握

產業轉型時機來臨，商機加值就在此刻！





Insight2014 大數據高峰會

物聯巨網：掌握物聯網，掌握前所未見的創新機會

台灣IBM公司軟體事業處
資深軟體顧問 蘇友信



物聯網已經深入你我身旁

藍芽耳機
隨時與朋友溝通



智慧型手機讓
我們能隨手取
得資訊



第一人稱
視訊延伸



智慧型手錶
不僅是手錶，
更是健康偵測器



物聯網已經深入你我身旁

智能電網
提供更好的配電措施



智慧電視
讓我們有更多娛樂選擇



智能汽車
更多主動安全裝置



智慧電錶
更精準了解用電需求



Honda R&D Co., Ltd. 採用大數據預測分析改善電動車電池效能及提升車輛安全

50% reduction

in CO2 emissions by
commercializing EV technology

Boosts confidence

and customer satisfaction with EVs
by improving performance

Improves design

by analyzing massive amounts
of operating data



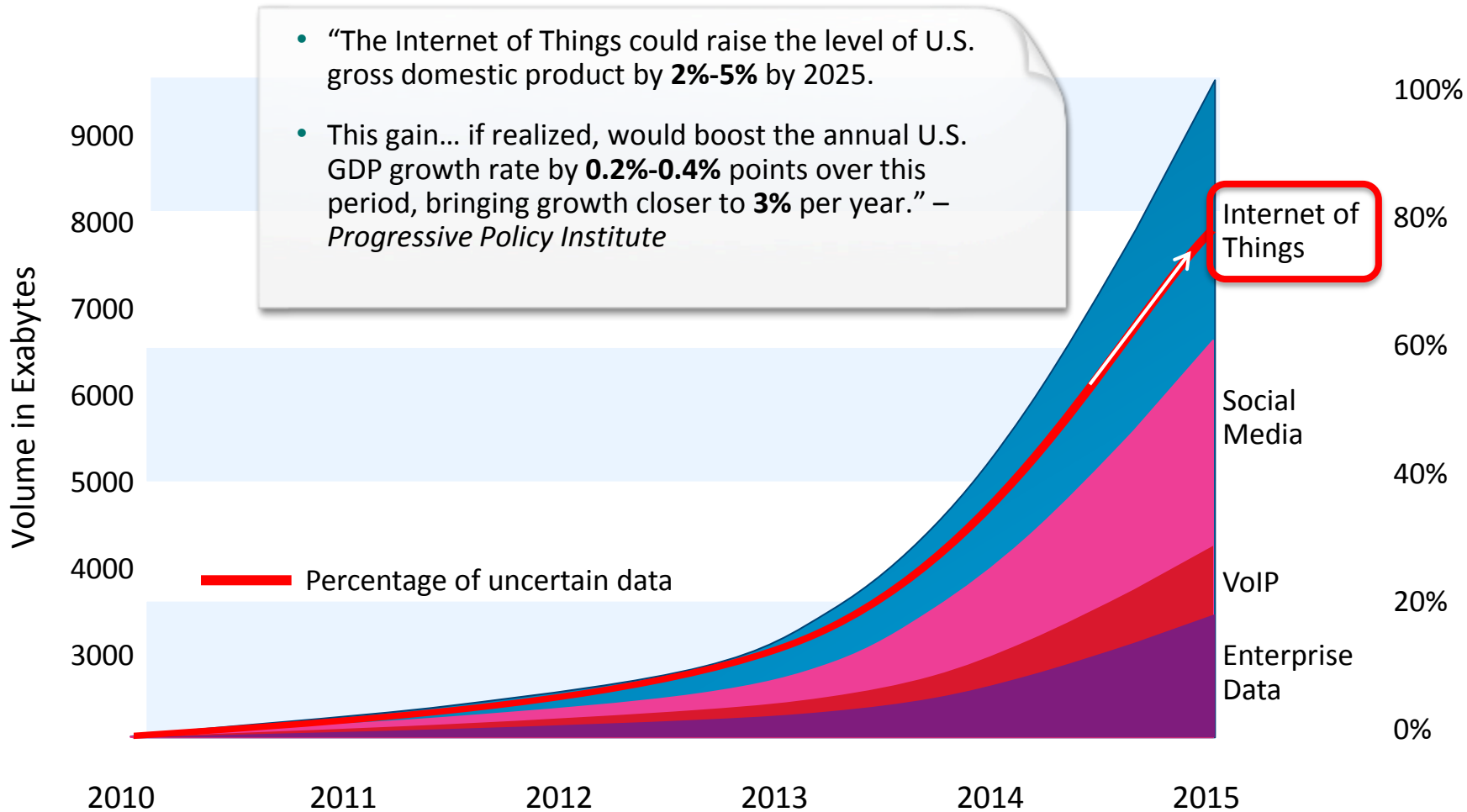
Business Challenge: Because all-electric vehicles (EVs) do not use gasoline like traditional or hybrid cars, they rely entirely on their batteries for power. Honda R&D Co., Ltd., a division of Honda Motor Co., Ltd., wanted to better understand what factors had the greatest impact on battery performance and longevity.

The Smarter Solution: Honda R&D can now gather and analyze near-real-time battery data from FIT EV on the road in Japan and the United States. Analysis can identify which operating factors, such as road conditions, charging patterns and trip length, have the greatest impact on battery life. Further analysis can help the automaker predict when batteries need replacing, so it can alert owners in advance.

“Data gathered from the real-world operation of our vehicles is critical to predict the longevity of current batteries and greatly influences future product design.”

—Senior Chief Engineer, Automobile R&D Center,

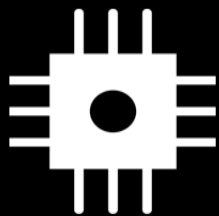
物聯網趨勢



Sources: IBM Global Technology Outlook – 2012

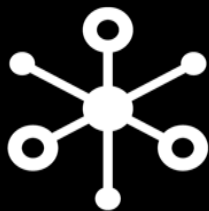
http://www.progressivepolicy.org/wp-content/uploads/2013/09/09.2013-Mandel_Can-the-Internet-of-Everything-Bring-Back-the-High-Growth-Economy-1.pdf

物聯網時代已經來臨



Our world is becoming

INSTRUMENTED



Our world is becoming

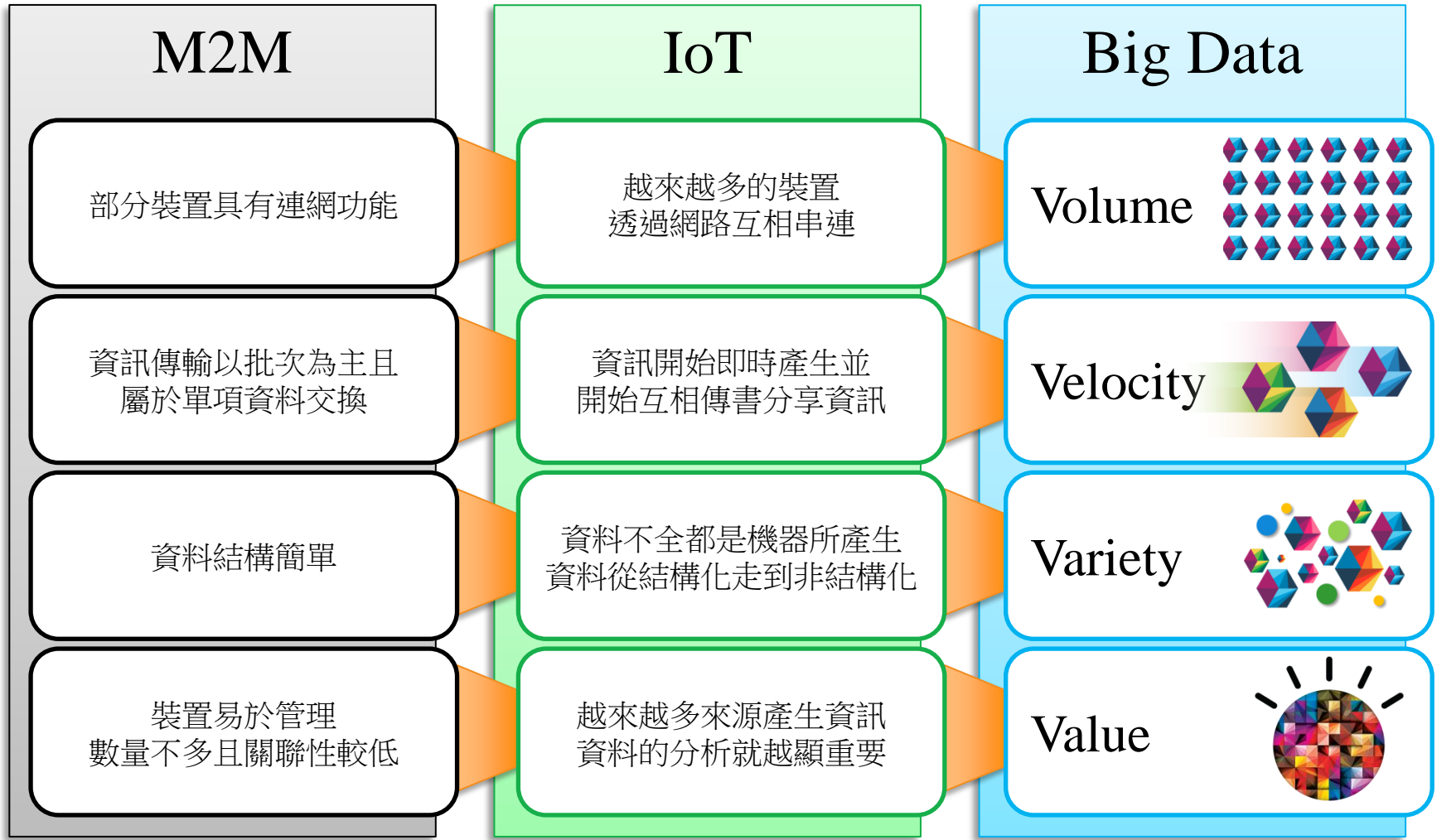
INTERCONNECTED



All things are becoming

INTELLIGENT





從物聯網走向大數據



物聯網的應用方向



物聯網在各產業的應用場景

	銀行業	醫療業	汽車製造	零售業	流通業	能源業
 <p>Monetize</p>	<ul style="list-style-type: none"> Mobile Banking 	<ul style="list-style-type: none"> Paid home care family services 	<ul style="list-style-type: none"> Pay-per-drive car rental 	<ul style="list-style-type: none"> Sensor enabled Loyalty cards 	<ul style="list-style-type: none"> Paid Alerts to travellers 	<ul style="list-style-type: none"> Pay-per-use energy
 <p>Optimize</p>	<ul style="list-style-type: none"> Optimized Cash management 	<ul style="list-style-type: none"> ER Bed Resource Mgmt 	<ul style="list-style-type: none"> Fleet management 	<ul style="list-style-type: none"> Store layout optimization 	<ul style="list-style-type: none"> Smart Cities Traffic management 	<ul style="list-style-type: none"> Delay non-essential supply during peak loads
 <p>Extend</p>	<ul style="list-style-type: none"> Banking the un-banked Biometrics Smarter Subsidies 	<ul style="list-style-type: none"> Life style monitoring 	<ul style="list-style-type: none"> In-car Movies, Music, Games Highly Automated Driving 	<ul style="list-style-type: none"> Smart Vending Machines Delivery Lockers 	<ul style="list-style-type: none"> Mobility Services 	<ul style="list-style-type: none"> Smart home services
 <p>Control</p>	<ul style="list-style-type: none"> Remote ATM Management Dynamic Authorization 	<ul style="list-style-type: none"> Remote Hospital environment Mgmt 	<ul style="list-style-type: none"> Remote Drive-train optimization 	<ul style="list-style-type: none"> Store parking management Dynamic price labels 	<ul style="list-style-type: none"> Crowd management Timetable management 	<ul style="list-style-type: none"> Remotely control consumer devices

物聯網來襲，企業準備好了嗎？

移動式裝置



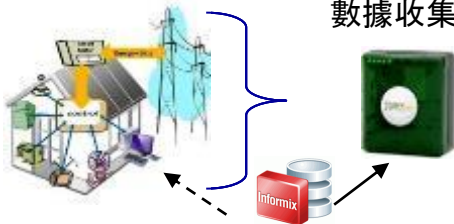
Streaming data

我們有辦法即時收集資訊嗎？

我們有能力處理無所不在的資訊嗎？

固定式裝置

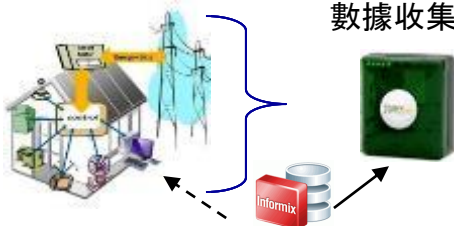
數據收集器



Streaming data

Timeseries Embedded 資料庫

數據收集器



Timeseries Embedded 資料庫

我們有平台能作新舊資料整合作業嗎？

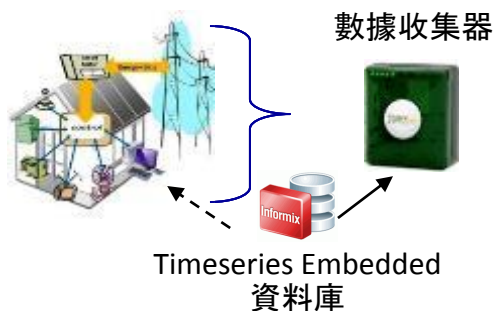
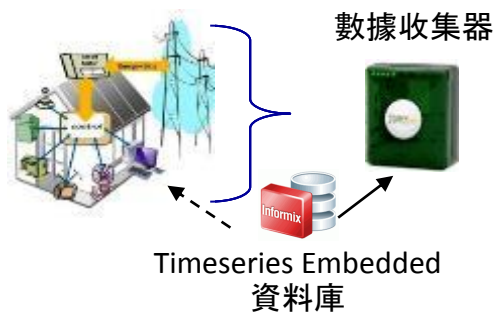
現在的技術能滿足快速變化的資料類型嗎？

物聯網來襲，企業準備好了嗎？

移動式裝置



固定式裝置



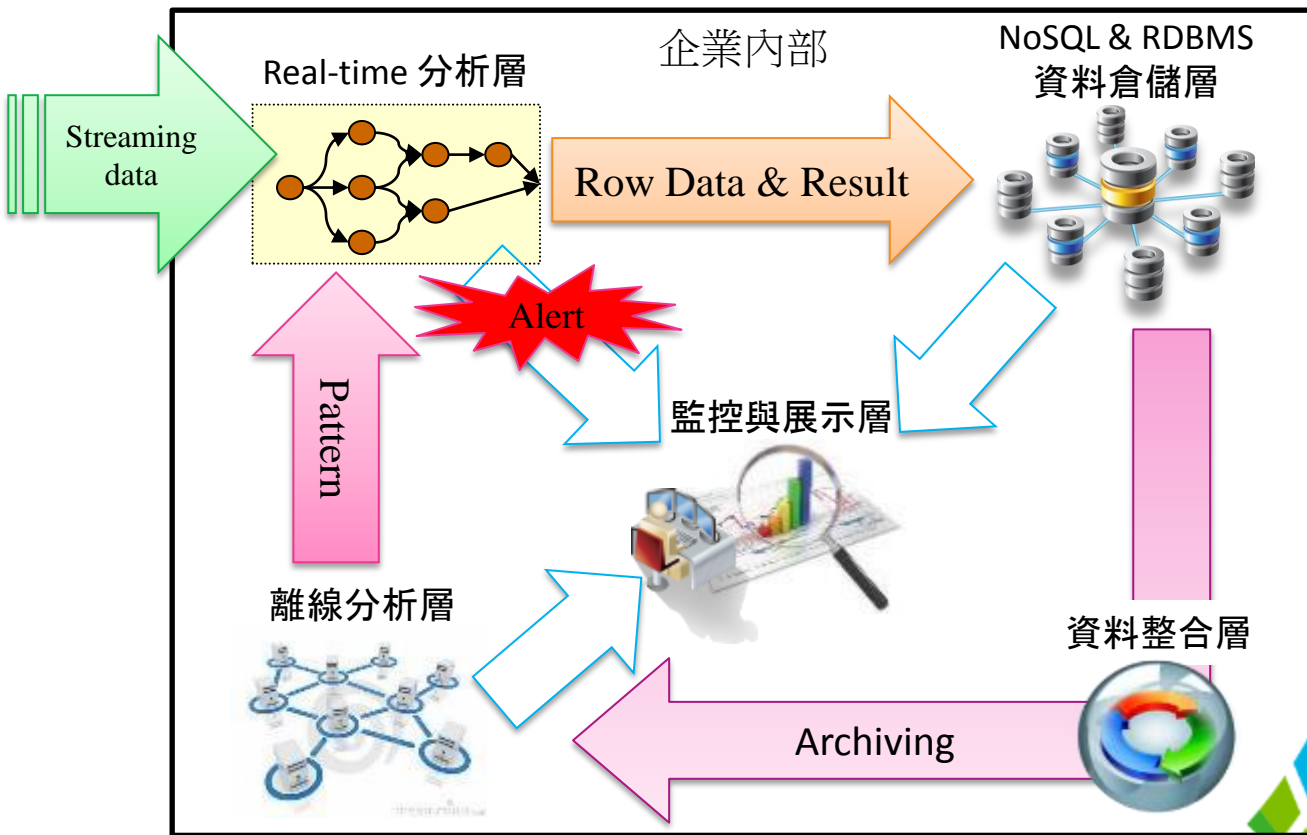
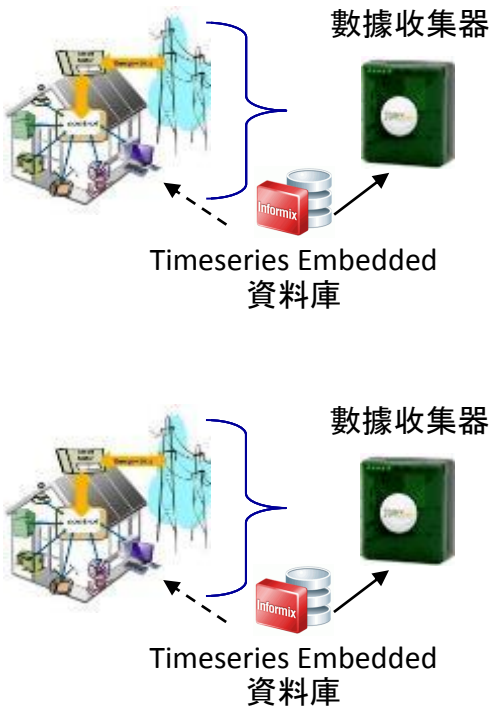
- 訊息源源不斷產生
- 資料皆包含時間資訊
- 資訊類型多種且複雜
- 資料價值分秒必爭
- 資訊量龐大且不可預測

物聯網的應用架構

移動式裝置



固定式裝置



物聯網的應用架構

移動式裝置



Streaming data

- 資料包含地理資訊
- 資訊產生於任何時間、任何地區
- 網路服務不可預測性

固定式裝置



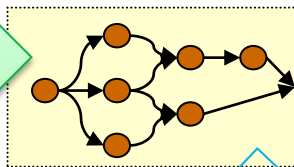
數據收集器
Timeseries Embedded 資料庫



數據收集器
Timeseries Embedded 資料庫

Streaming data

Real-time 分析層



企業內部

NoSQL & RDBMS
資料倉儲層

Row Data & Result



Alert

Pattern

監控與展示層

離線分析層

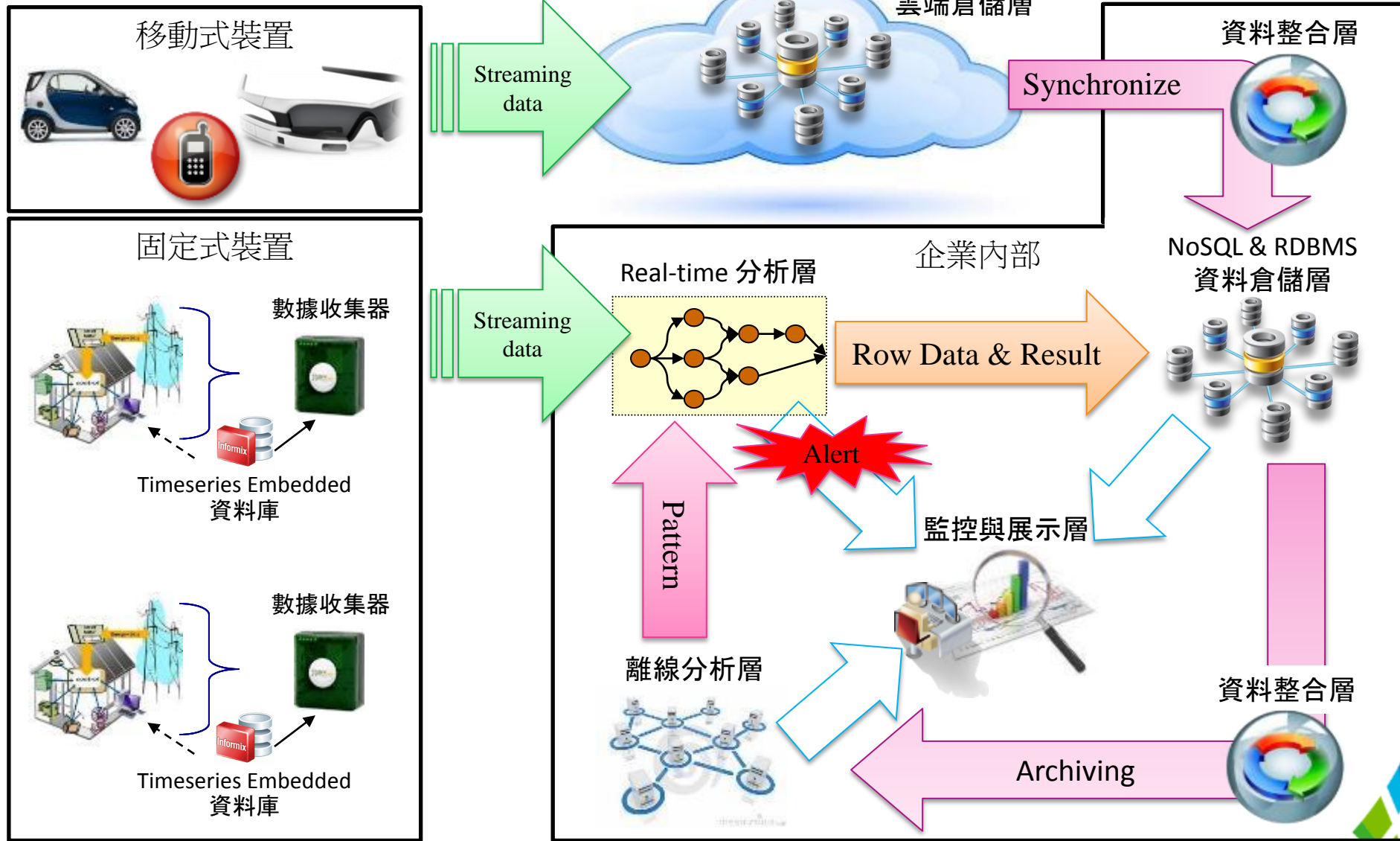


資料整合層

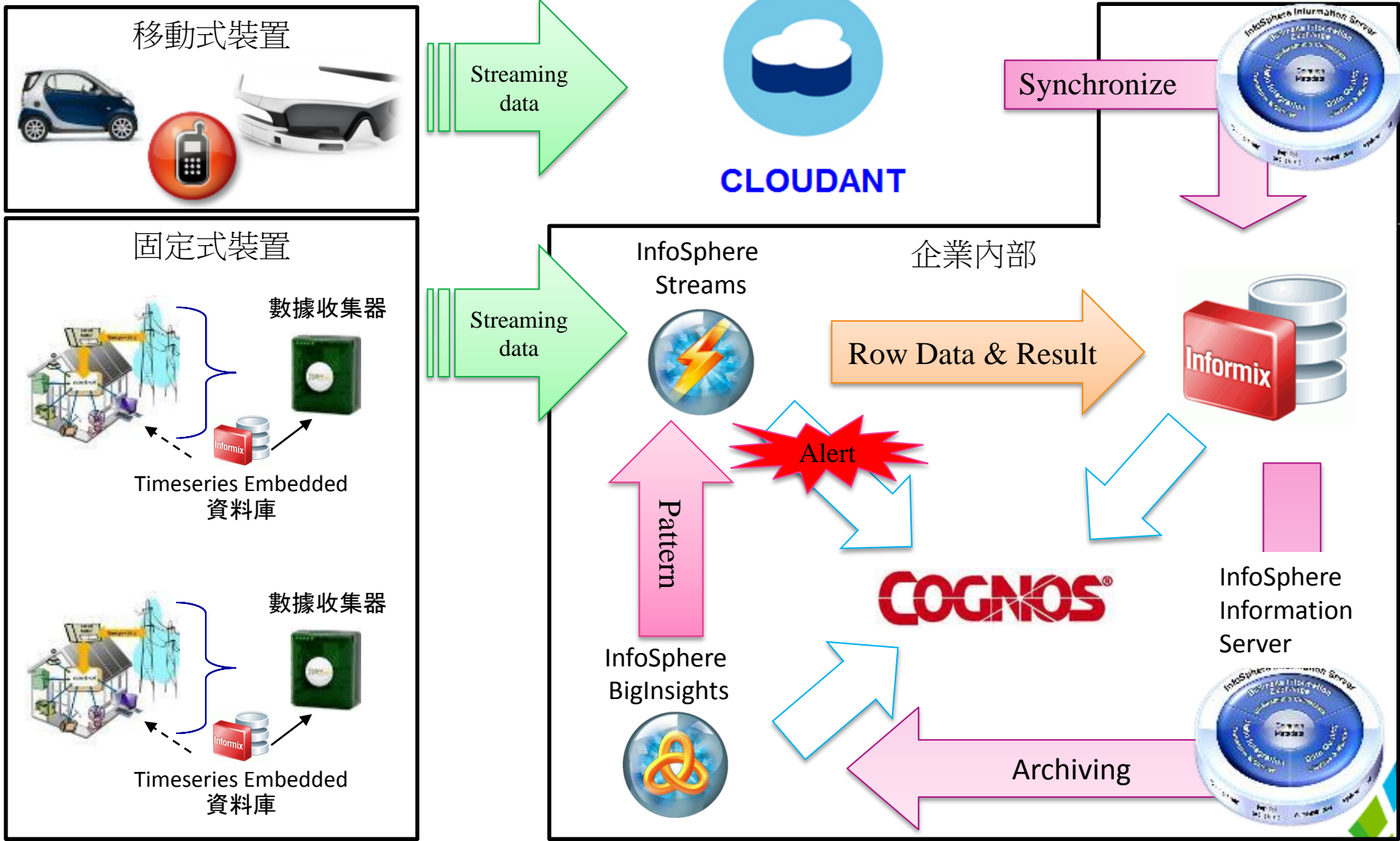
Archiving



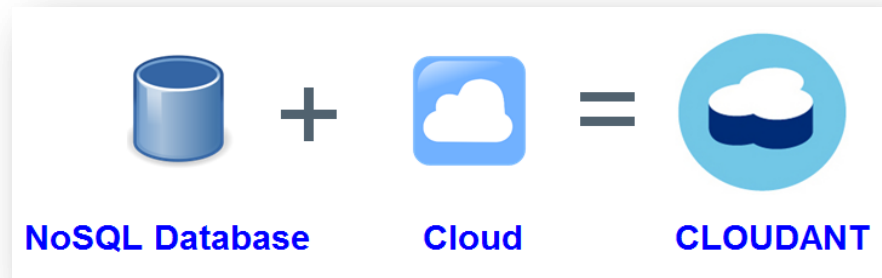
物聯網的應用架構



IBM 如何協助企業進行物聯網的應用



- Cloudant 為 IBM 的 NoSQL 雲端資料服務平台



- Cloudant 優勢：
 - 彈性的 JSON 資料結構，因應需求快速變化
 - Multi-master 架構，提供更好的讀寫延遲性
 - 在 9 個國家及 5 大洲擁有 35 座資料中心，給予更好網路存取效益
 - 由 5 家雲端供應商代管，避免單一 IaaS 服務商綁定



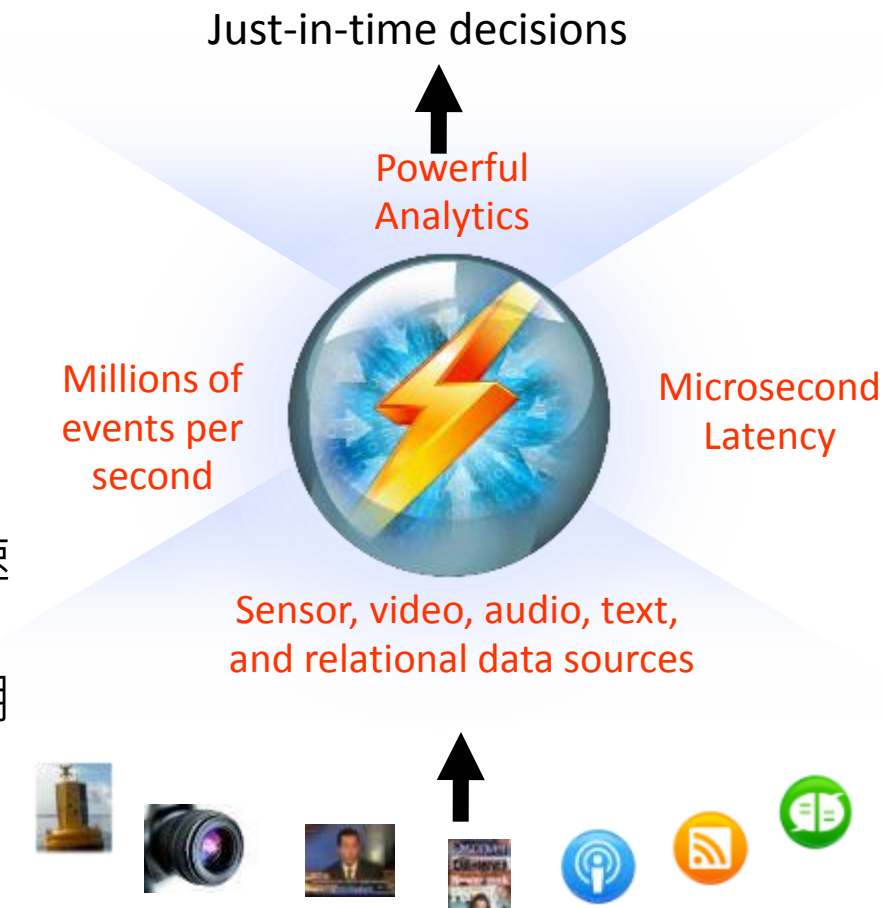
InfoSphere Streams : 即時分析運算平台



- InfoSphere Streams 為 IBM Watson Lab 研發的即時運算分析平台

- Streams 優勢 :

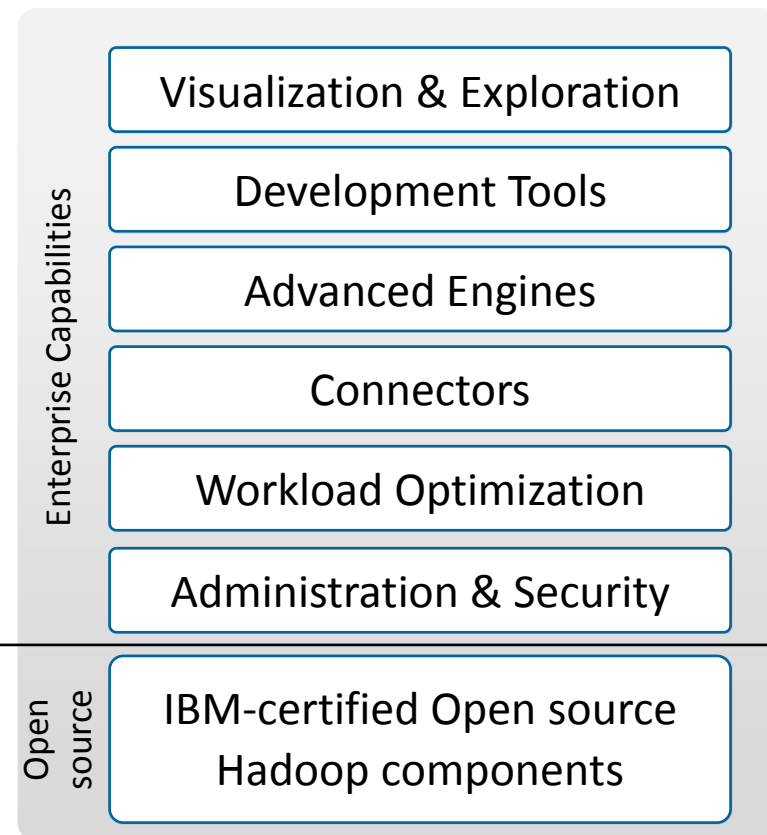
- Volume – 每秒 GB 的處理量
- Variety – 處理各類型資訊
- Velocity - 毫秒級運算效能
- Agility – 彈性與動態設計架構
- 視覺化開發工具，協助企業快速開發即時分析應用
- 內建多樣工具包，縮短企業應用開發時程
- 自主性 HA 架構，保證系統維運不中斷



InfoSphere BigInsights : 大數據分析平台



- InfoSphere BigInsights 為 IBM 大數據分析平台，以 Hadoop 為基礎並提供多種企業級分析引擎、管理工具與安全機制等
- BigInsights 優勢：
 - BigSQL – MPP 架構的 SQL 處理引擎，無縫整合現有應用系統
 - BigSheets – 資料科學家的視覺化資料探勘工具
 - BigR – 快速整合 R 程式並運行於分散式系統
 - 內建多種 APP，加速企業導入大數據分析





Thank You