



超融合實現軟體定義數據中心願景

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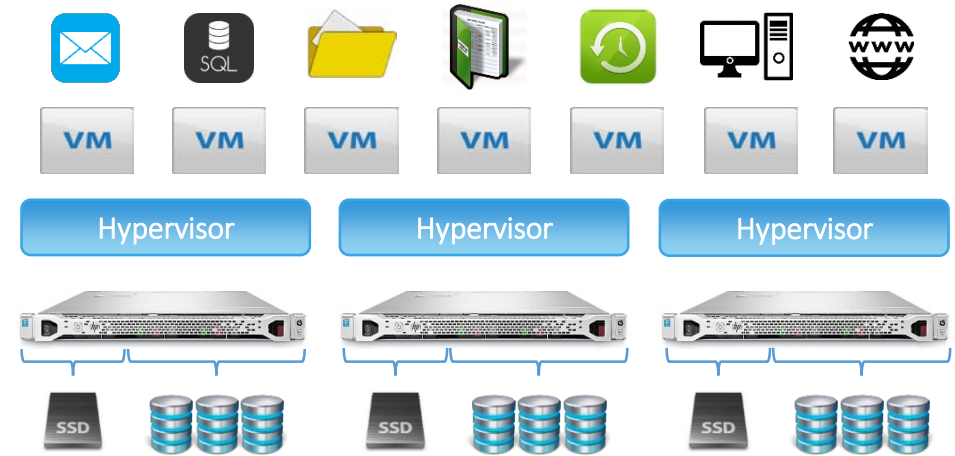
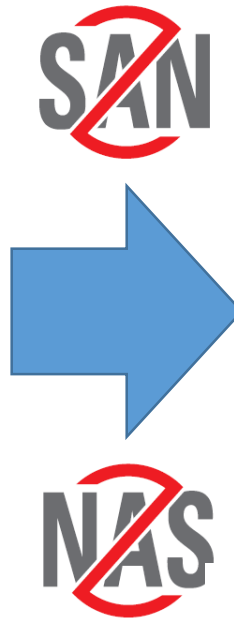
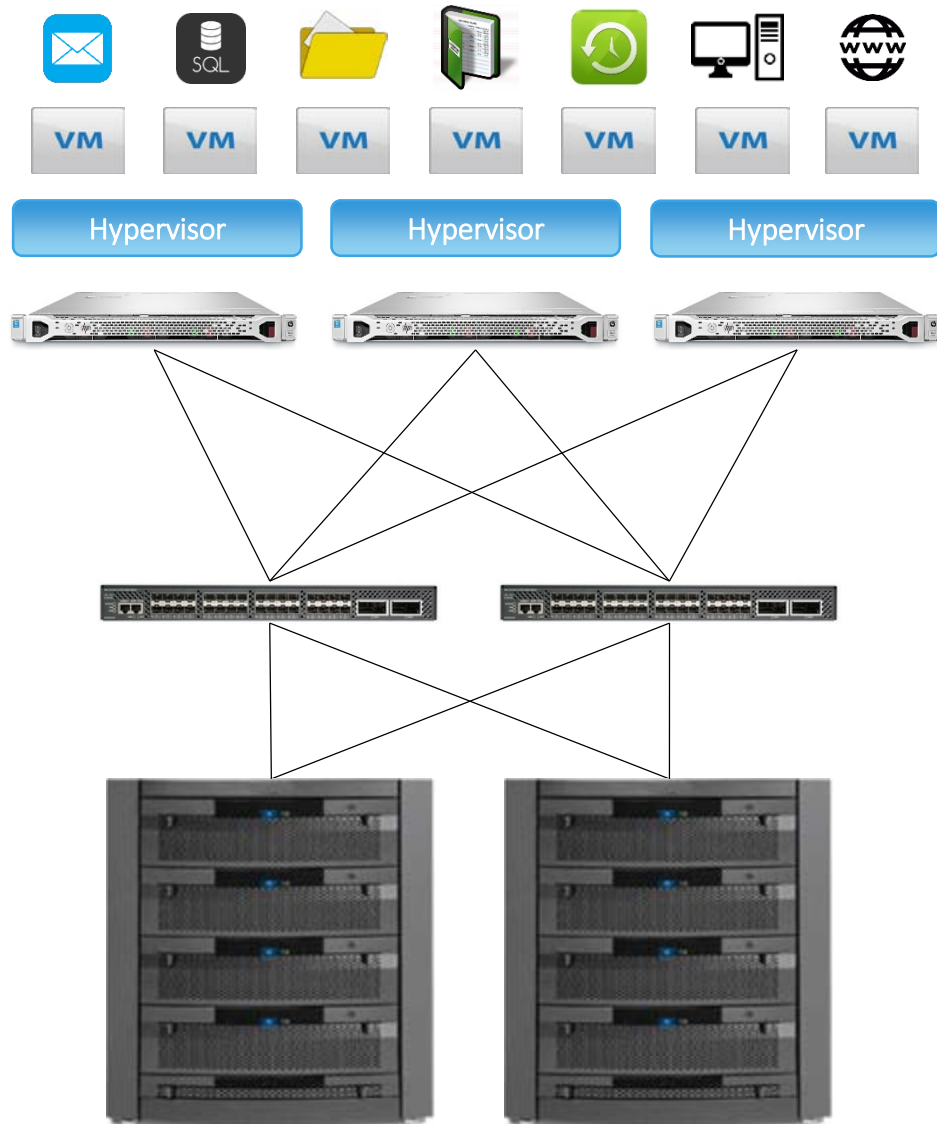
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超融合的定義？

- ✓ 超融合基礎架構 (Hyper-Converged Infrastructure，或簡稱" HCI")
 - 同一套單元設備中具備計算、網路和儲存要素的虛擬化資源
 - 可能還包括備份軟體、快照技術、重複數據刪除、在線數據壓縮等元素
 - 多套單元設備可以透過網路聚合起來，實現模組化的無縫橫向擴展 (scale-out)，形成統一的資源池
- ✓ 目前超融合產品多是儲存端的融合，配合已全面商品化的計算融合/虛擬化
- ✓ 橫向擴展性 (scale out) 是它的很大賣點，這也是很多大型數據中心的選擇點
- ✓ HCI 的最大典型部署
 - 類似 Google、Facebook 後台的大規模基礎架構模式，可以為數據中心帶來最優異的效率、靈活性、規模、成本和數據保護



超融合→軟體定義數據中心的前置準備



超融合架構

簡單架構

快速擴展

統一管理

-77%
機房空間



-26%
設備耗電



-93%
互聯纜線



-75%
部署時間



-80%
當機時間



使用超融合技術構建新一代高效數據中心

虛擬化及軟體定義IT架構有效降低初始資本支出 與營運成本，並提高IT營運效率



手動
靜態
硬體定義

傳統數據中心

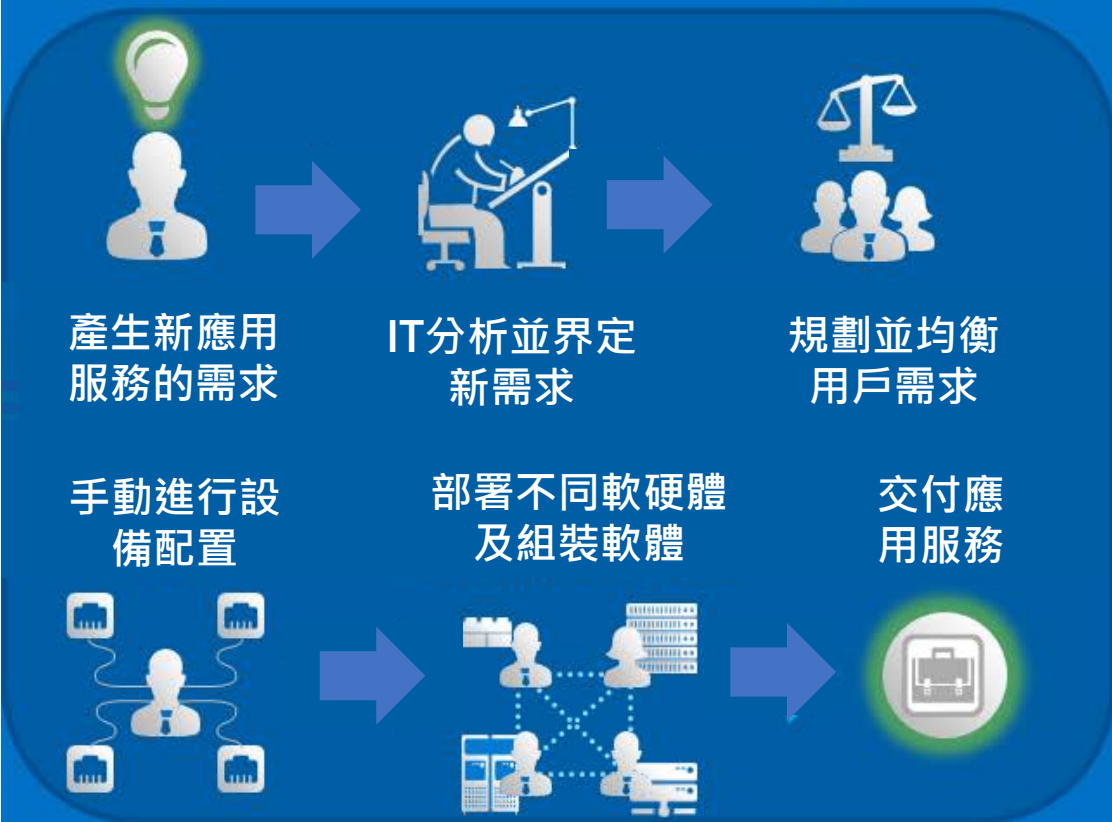


自動
動態
軟體定義

超融合數據中心

超融合讓業務系統上線及使用變得更簡單、更快速、更自動化

過去



提供新服務所需時間：月

傳統數據中心

未來

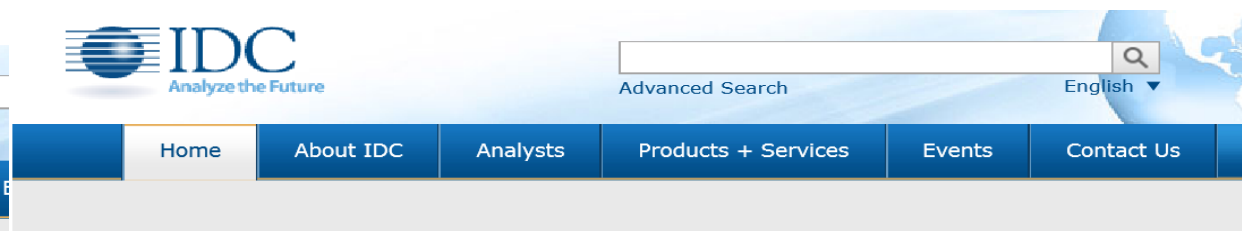
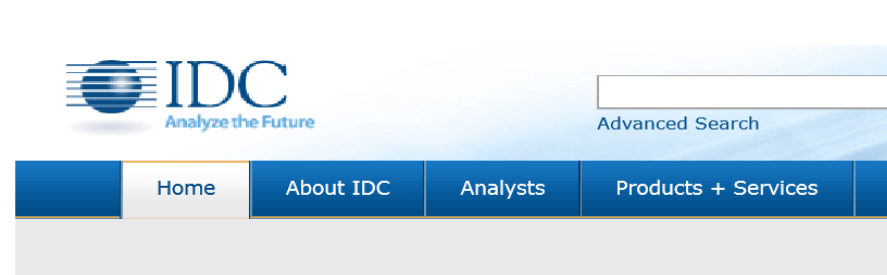


提供新服務所需時間：分鐘

軟體定義數據中心(超融合)



數據中心的超融合趨勢



Press Release

Hyperconverged Sales

Worldwide Server Market Revenues Decline 0.5% in the First Quarter, C Slowdown, According to IDC

01 Jun 2016

FRAMINGHAM, Mass., June 1, 2016 – According to the International Data Corporation (IDC) [Quarterly Server Tracker](#), vendor revenue in the worldwide server market declined 0.5% to \$12.4 billion in the first quarter of 2016 (1Q16). This ended a seven quarter streak of growth. Revenue declined due to a pause in hyperscale server shipments as a clear end to the enterprise refresh cycle. Worldwide server shipments decreased 1.8% in 1Q16 compared with the same year-ago period.

Based on June 2016 IDC Report:

- Integrated System up by 1.8%
 - Certified Reference Systems flat at 0.3%
 - Hyperconverged Systems grew 148% year over year !!!
- On a year-over-year basis, volume system revenue increased 1.0% and midrange 8.3% in 1Q16 to \$9.8 billion and \$1.1 billion, respectively. Midrange systems were investment in scalable systems for virtualization and consolidation, as well as in critical systems. Meanwhile, 1Q16 demand for high-end systems experienced a year-over-year decline of 33.4% to \$1.4 billion on a difficult compare to the prior year, in which a mainframe upgrade drove a spike in mainframe system refresh.

"As expected, server growth slowed in the first quarter, with a clear end to the pause in hyperscale cloud expansion, and a very difficult year-on-year comparison in the market, coming off of a major mainframe refresh from IBM one year ago," said **Kevin M. Permenter**, Director, Computing Platforms at IDC. "Now that the cyclical refresh has come to its end, the market is shifting towards software-defined infrastructure, hybrid environment management domains such as the Internet of Things (IoT), robotics, and cognitive analytics. IDC expects the second half of 2016 to re-energize hyperscale cloud infrastructure expansion with datacenters filling out and new cloud datacenters standing up across the globe."

Press Release

Worldwide Converged Systems Revenue Increases 11.0% Year over Year in the First Quarter of 2016, Surpassing \$2.5 Billion in Value, According to IDC

23 Jun 2016

FRAMINGHAM, Mass., June 23, 2016 – According to the International Data Corporation (IDC) [Worldwide Quarterly Converged Systems Tracker](#), the worldwide converged systems market increased revenue 11.0% year over year to \$2.5 billion during the first quarter of 2016 (1Q16). The market generated 1,367 petabytes of new storage capacity shipments during the quarter, which was up 36.2% compared to the same period a year ago.

"End users within the mid-market and even in the outer edge of the enterprise datacenter continue to prioritize simplicity in all aspect of the user experience. This is at the heart of the rapid growth rate within hyperconverged systems," said **Kevin M. Permenter**, senior research analyst, [Computing Platforms](#). "Going forward, IDC believes the vendors that can present the end user with a seamless and simple end-to-end experience will be well-positioned for further growth."

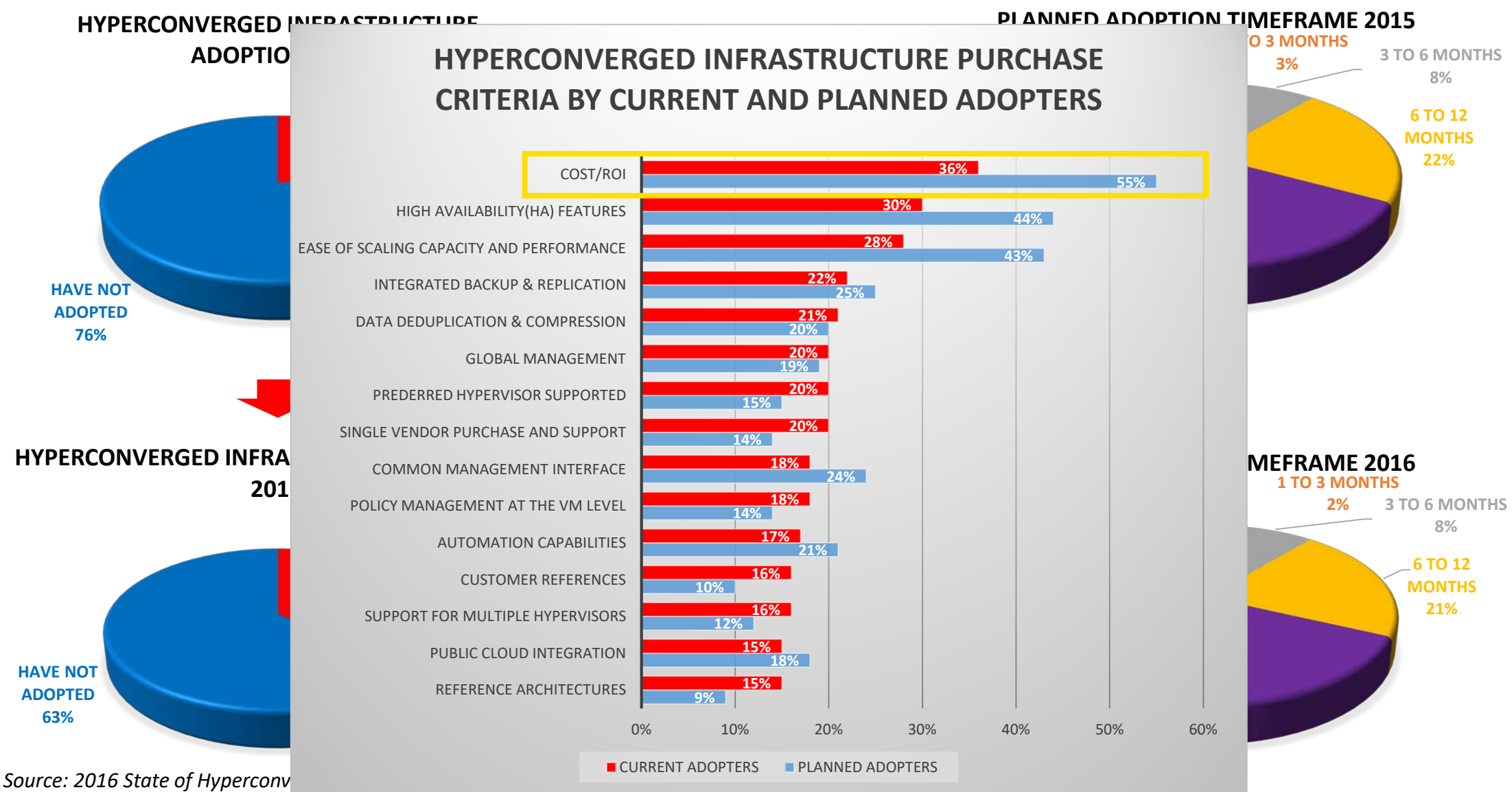
Converged Systems Segments

IDC distinguishes between three market segments: Integrated Systems, Certified Reference Systems, and Hyperconverged Systems.

- Integrated systems are pre-integrated, vendor-certified systems containing server hardware, disk storage systems, networking equipment, and basic element/systems management software.
- Like integrated systems, certified reference systems are pre-integrated, vendor-certified systems containing server hardware, disk storage systems, networking equipment, and basic element/systems management software. Certified reference systems, however, are designed with systems from multiple technology vendors
- Hyperconverged systems collapse core storage and compute functionality into a single, highly virtualized solution. A key characteristic of hyperconverged systems that differentiate these solutions from other integrated systems is their ability to provide all compute and storage functions through the same server-based resources.



超融合最終是在幫您？



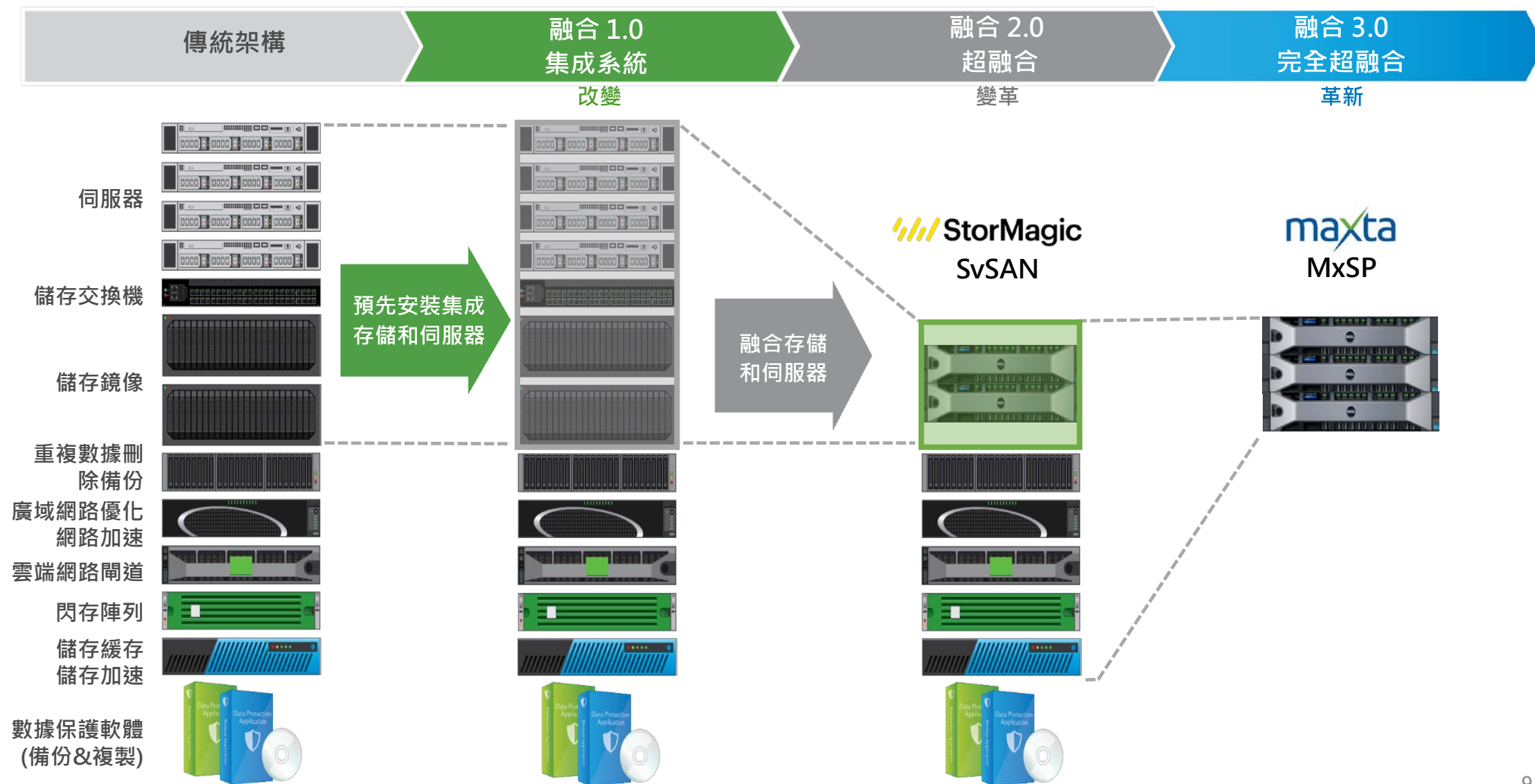
Source: 2016 State of Hyperconverged Infrastructure

超融合後的數據中心採購方式？

- 超融合主機採購規格
 - ✓ 中央處理器：提供 2 顆(含)以上 10-Core Intel Xeon E5-26xx v4(含)以上。
 - ✓ 記憶體：提供每支 16GB DIMM(含)以上，共 128GB(含)以上。
 - ✓ 儲存：提供 6 顆Hot Plug SSD 硬碟 800GB(含)以上。
 - ✓ Raid Card：提供 1GB(含)以上快取記憶體與電池模模組，支援Raid 5、6 (含)以上。
 - ✓ 電源供應器：提供 2 顆(含)以上支援熱抽取式備援電源供應器。
 - ✓ 網路介面：提供至少 4 埠(含)以上10Gb Base-T網路介面。
 - ✓ 機架型，提供內建整合式管理控制晶片，管理者可透過獨立Ethernet 介面連接管理晶片，以進行電源開關機，及遠端監控。
 - ✓ 服務：提供三年 7*24，4 小時到場服務。
- 超融合軟體採購規格
 - ✓ 獨規.....
- 10G Switch採購規格(options)
 - ✓ 24-port 10G Base-T Switch.....

以超融合軟體主導整個數據中心採購規格，硬體以您最有優勢的品牌來放

超融合的演進 – 達成最終願景SDDC (Software Defined Datacenter)



超融合案例 – 全球50強金融服務公司

金融服務公司選擇超融合架構將其全球數據中心數量由6個數量減少到3個，進行現代化改進並運行全部的應用。

公司： 福布斯排名前50的全球投資經理，掌控3,450億歐元資產，包括個人資產、家庭資產和機構資產，分佈在18個市場的23個地點；公司通過經銷商接觸到超融合產品。

挑戰： 企業收購導致管理IT基礎架構變得複雜和困難；原始的目的是：利用下一個“真正可用”實現現代化改進。

使用案例： 4,000個虛擬機的數據中心合併計劃，虛擬機使用Microsoft Exchange、Microsoft SQL Server、Oracle、VDI、網頁及其他各種應用

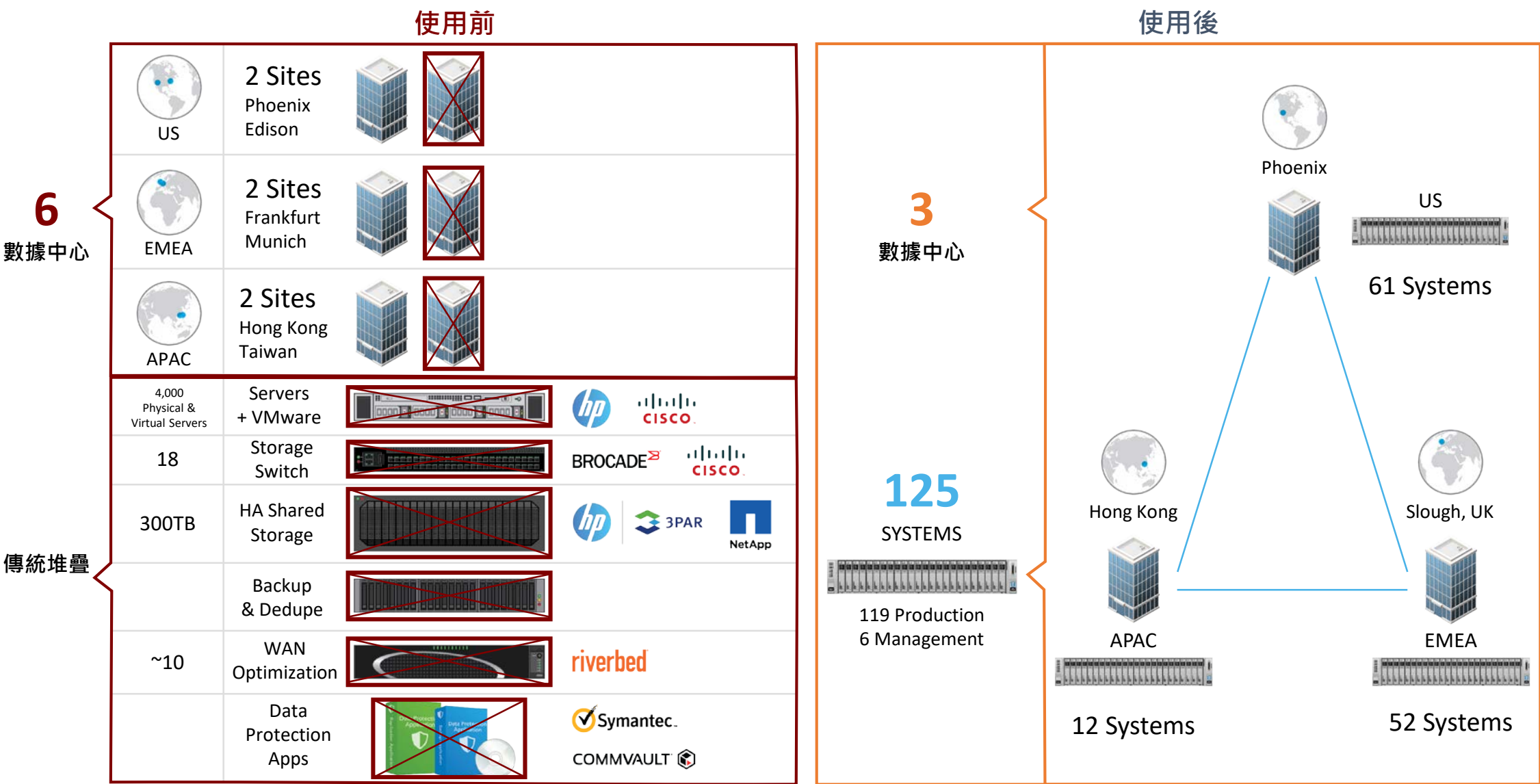
競爭關係： 當前使用的是HP和3PAR；還包括Pure、EMC、NetApp、Nutanix、vSAN

為什麼選擇超融合架構： 與其他廠商與產品相比更顯著的是**成本節省**、簡單化和出色的性能

解決方案： 全球超過120個系統，分佈於3大洲的3個數據中心，使用主動/主動模式



5年累計減少1億美元開支：4倍 TCO 的減少；節省90%設備空間和散熱的開支



StorMagic成功案例 – Fortune 250 美國零售商

概覽

- 大型零售商
- 超過2,300家門市店
- 每個門市店超過2台伺服器

客戶挑戰

- SAN 故障和數據丟失
- RAID 故障 (需要從備份進行還原)
- 昂貴的外部IT外包服務
- 每年平均100家門市店服務中斷 (平均每次6小時)

門市店業務需求

- 高可用性 (HA)
- 高性能
- 降低硬體架構複雜度
- 降低分支機構的管理複雜度
- 性價比高的採購、部署及管理成本解決方案



StorMagic成功案例 – Fortune 250 美國零售商

節省成本

- 採購成本 – 節省約 30%
- 營運成本 – 節省約 40%
- 唯一可行的**2台伺服器**解決方案
- 降低管理和部署時的IT資源投入

易於使用

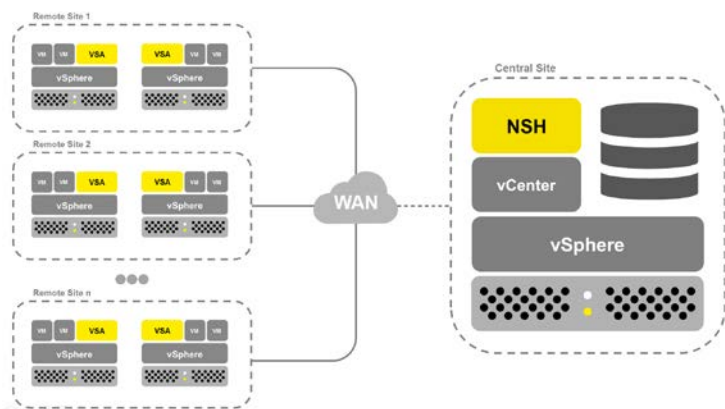
- 通過vCenter 統一管理
- 支持腳本化快速部署及更新
- 集中管理、監控與軟體升級

性能

- 真正的active/active雙活功能
- 優化的堆疊使用，更少的CPU佔用

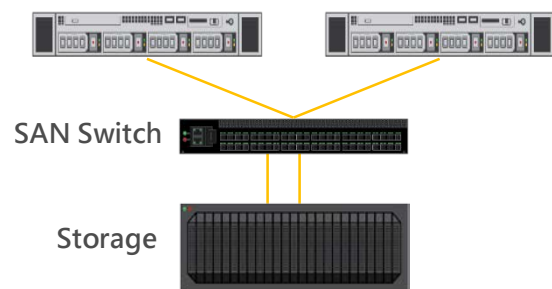
靈活性和擴展性

- 硬體獨立
- 通過vCenter集中管理
- 配送中心採用同樣架構，有更多的伺服器

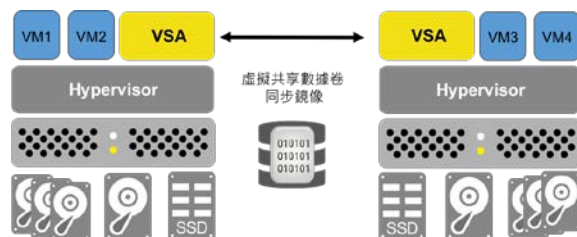


超融合成本效益 – SvSAN vs 傳統實體SAN

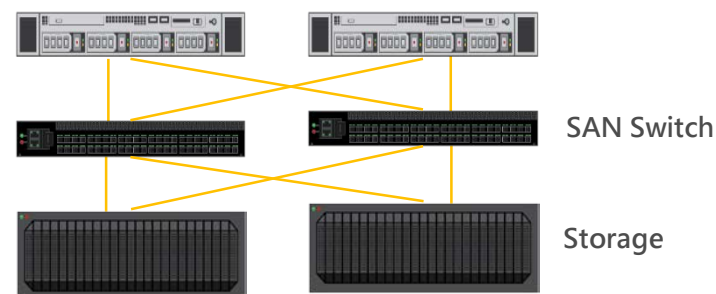
單台SAN Storage/Switch



StorMagic SvSAN



兩台SAN Storage/Switch



價格最省、效能最好

	SAN#1	StorMagic
組合內容	價格	價格
VMware vSphere Essentials Plus	NT\$136,699	NT\$136,699
Server Hardware	NT\$374,866	NT\$374,866
SAN Switch	NT\$190,299	-
SAN Storage	NT\$285,470	-
StorMagic SvSAN	-	NT\$200,000
採購1年保固總費用	NT\$987,334	NT\$711,565
採購3年保固總費用	NT\$1,081,734	NT\$855,965

節省成本

28%

21%

	StorMagic	SAN#2
組合內容	價格	價格
VMware vSphere Essentials Plus	NT\$136,699	NT\$136,699
Server Hardware	NT\$374,866	NT\$374,866
SAN Switch	-	NT\$380,598
SAN Storage	-	NT\$570,940
StorMagic SvSAN	NT\$200,000	-
採購1年保固總費用	NT\$711,565	NT\$1,463,103
採購3年保固總費用	NT\$855,965	NT\$1,557,503

節省成本

51%

45%

StorMagic | The hyper-converged
infrastructure company



Thank You

StorMagic

Taiwan Region

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