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Chap. 5
IT Infrastructure and Emerging Technologies: Salesforce.com
Case Study: Salesforce.com (Chap. 5) (pp.233-235)

Salesforce.Com: Cloud Services Go Mainstream

1. How does Salesforce.com use cloud computing?
2. What are some of the challenges facing Salesforce as it continues its growth? How well will it be able to meet those challenges?
3. What kinds of businesses could benefit from switching to Salesforce and why?
4. What factors would you take into account in deciding whether to use Salesforce.com for your business?

Overview of Fundamental MIS Concepts

BART Speeds Up with a New IT Infrastructure

• Problem: Aging systems no longer able to provide information rapidly enough for timely decisions; too unreliable for 24/7 operations

• Solutions: Replaced and upgraded hardware and software and used leading-edge technology
  – Grid computing
  – Virtualization
  – Blade servers

• Demonstrates IT’s role in using resources more efficiently; reducing computing energy usage, modernizing services

IT infrastructure

• Set of physical devices and software required to operate enterprise
• Set of firmwide services including:
  – Computing platforms providing computing services
  – Telecommunications services
  – Data management services
  – Application software services
  – Physical facilities management services
  – IT management, standards, education, research and development services
• “Service platform” perspective more accurate view of value of investments

CONNECTION BETWEEN THE FIRM, IT INFRASTRUCTURE, AND BUSINESS CAPABILITIES

STAGES IN IT INFRASTRUCTURE EVOLUTION

Mainframe/Minicomputer (1959–present)

Personal Computer (1981–present)

Client/Server (1983–present)

A MULTITIERED CLIENT/SERVER NETWORK (N-TIER)

MOORE’S LAW AND
MICROPROCESSOR PERFORMANCE

Moore’s Law Means
More Performance

EXAMPLES OF NANOTUBES
THE COST OF STORING DATA DECLINES EXPONENTIALLY 1950–2010

EXPONENTIAL DECLINES IN INTERNET COMMUNICATIONS COSTS
THE IT INFRASTRUCTURE ECOSYSTEM

Internet Platforms
- Apache
- Microsoft IIS, .NET
- Unix
- Cisco
- Java

Computer Hardware Platforms
- Dell
- IBM
- Sun
- HP
- Apple
- Linux machines

Operating Systems Platforms
- Microsoft Windows
- Unix
- Linux
- Mac OS X
- Google Chrome

Networking/Telecommunications
- Microsoft Windows Server
- Linux
- Novell
- Cisco
- Alcatel-Lucent
- Nortel
- AT&T, Verizon

Enterprise Software Applications (including middleware)
- SAP
- Oracle
- Microsoft
- BEA

Consultants and System Integrators
- IBM
- EDS
- Accenture

Data Management and Storage
- IBM DB2
- Oracle
- SQL Server
- Sybase
- MySQL
- EMC Systems

HOW DOLLAR RENT A CAR USES WEB SERVICES

CHANGING SOURCES OF FIRM SOFTWARE

Software outsourcing and cloud services

• Three external sources for software:
  1. Software packages and enterprise software
  2. Software outsourcing (domestic or offshore)
  3. Cloud-based software services

Cloud-based software services

- Software as a service (SaaS)
- Accessed with Web browser over Internet
- Ranges from free or low-cost services for individuals to business and enterprise software
- Users pay on subscription or per-transaction
- E.g. Salesforce.com
- Service Level Agreements (SLAs):
  - formal agreement with service providers

Software outsourcing and cloud services

• Mashups
  – Combinations of two or more online applications, such as combining mapping software (Google Maps) with local content

• Apps
  – Small pieces of software that run on the Internet, on your computer, or on your cell phone
    • iPhone, BlackBerry, Android
  – Generally delivered over the Internet

Management Issues

• Dealing with platform and infrastructure change
  – As firms shrink or grow, IT needs to be flexible and scalable
  – Scalability:
    • Ability to expand to serve larger numbers of users
  – For mobile computing and cloud computing
    • New policies and procedures for managing these new platforms
    • Contractual agreements with firms running clouds and distributing software required

Management Issues

• Management and governance
  – Who controls IT infrastructure?
  – How should IT department be organized?
    • Centralized
      – Central IT department makes decisions
    • Decentralized
      – Business unit IT departments make own decisions
  – How are costs allocated between divisions, departments?

Management Issues

• Making wise infrastructure investments
  – Amount to spend on IT is complex question
    • Rent vs. buy, outsourcing
  – Total cost of ownership (TCO) model
    • Analyzes direct and indirect costs
    • Hardware, software account for only about 20% of TCO
    • Other costs: Installation, training, support, maintenance, infrastructure, downtime, space and energy
    • TCO can be reduced through use of cloud services, greater centralization and standardization of hardware and software resources

Case Study: Lego (Chap. 6) (pp.270-271)

Lego: Embracing Change by Combining BI with a Flexible Information System

1. Explain the role of the database in SAP's three-tier system.

2. Explain why distributed architectures are flexible.

3. Identify some of the business intelligence features included in SAP's business software suite.

4. What are the main advantages and disadvantages of having multiple databases in a distributed architecture? Explain.

資訊管理個案
(Case Study for Information Management)

1. 請同學於資訊管理個案討論前
   應詳細研讀個案，並思考個案研究問題。

2. 請同學於上課前複習相關資訊管理相關
   理論，以作為個案分析及擬定管理對策的
   依據。

3. 請同學於上課前
   先繳交個案研究問題書面報告。
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