Preparation Sheet for MI 703 Computer Information Systems
Session #12 April 18th: Optimizing IT Infrastructure Operations

Session Note

- This Session will be held by Prof Paul Tallon (tallonpa@bc.edu). I will be at the University of Hawaii giving an invited lecture and doing some research. Prof Tallon has taught MI 703 several times before, so you will be in very good hands!

Session Overview

As the least attractive aspect of IT, IT operations are often overlooked and ignored. When something breaks, users frequently turn to the folks in operations to fix things. Operations are also the one part of the IT organization where costs can grow out of control. In this case, we will look at a technical case of server consolidation in a Swedish bank. The content of the case is a lot more technical than we are used to up to this point, but the detail is a necessary part of understanding what operations needs to do in order for the IT organization to be effective. We will also examine issues surrounding chargeback systems.

The session will begin with Team H doing a 20 minute case analysis presentation, after which Prof Tallon will lead the class in discussion of the case.

Then, in the last part of class, Prof Tallon will give a mini lecture based on some results from his own research on IT infrastructure. Prof Tallon describes this lecture as follows: "One of the lessons learned from the Postgirot case is that, in the right hands, infrastructure can be strategic. More than the hardware, software and networking resources that comprise a firm's technical IT infrastructure, infrastructure flexibility is what ultimately determines whether a firm can adapt to change. Those firms that are unable to adapt to change – falling into what the academic literature calls rigidity traps – may find their competitive performance erodes to negligible levels. In this presentation, we use survey data from 241 U.S. corporations to show how firms use IT infrastructure flexibility to achieve and maintain competitive advantage during periods of intense change. We will also examine a series of case studies that provide an up-close and personal view of how IT infrastructure adapts to change in a small number of firms."

Required Readings

1. Case Study: Postgirot Bank and Provment AB, HBS Case (Coursepack)
2. A Virtual Revolution, Business Week, 2005 (My Files)
3. Server Consolidation Delivers, Information Week (5-30-2005)
4. Building a Model Infrastructure, Computerworld (4-12-2004)
5. The Chargeback Conundrum, Computerworld (2-14-2005)
6. Server Consolidation: Less is More, Information Week (10-18-1999)
7. Determining the Cost of IT Services, CACM, 2002 (My Files)

Case Study Preparation

This case is about optimizing IT investment decisions in a bank through a consolidation process that tries to keep the lid on ever-increasing IT costs. Postgirot is gradually centralizing its once-decentralized systems and so the need for rationalization may be obvious. We get a sense from the case that IT may be strategic and so there may be a culture working against consolidation rather than trying to optimize costs to the detriment of everything else. Cutting costs may compromise some of the IT value that the systems have created for end users over recent months. Information on the companies in the case can be found at www.postgirotbank.com and www.provment.se (both sites are in English).

Approach to preparing the case presentation:

1. Provment produces a very sophisticated system for tracking cost and performance but the suggestions it makes for consolidation (as shown on page 22) must be weighted against factors that cannot be put into any decision tool. For example, some applications can conflict or have different operating system requirements, either of which could make nonsense of a consolidation suggestion. There clearly needs to be some assessment of the value of the underlying applications to the bank before a consolidation decision can go forward. Is there a systematic way that value and cost parameters could be built into a model to show how consolidation could reposition or change the applications' ratio of value to cost?

2. It is interesting that at no-point in the case does the writer discuss the possibility of chargebacks either before or after consolidation. What are chargebacks? If Postgirot Bank asked to design a chargeback system, how would you determine what costs to include in your chargeback and how would you assign these costs to end-users? What would be the benefits or drawbacks of such a system from an end-user motivational standpoint?

3. It also seems strange that the case did not discuss the possibility of outsourcing – running the banking applications on a system that is owned and operated by a team of professionals such as CSC, EDS or IBM. Why might outsourcing represent an alternative to consolidation – assuming that cost control is the central objective of consolidation? What would be the benefits and risks of outsourcing?

4. It seems that base-line theory is central to setting goals for, and measuring the performance of, each server. How does the theory work? The case notes that IT managers can use the theory "to determine which application should be processed at peak times and what safety margins are needed to meet quality and service level requirements" (p. 20). What happens if your application exhibits very erratic behavior, where peak use is highly variable (imagine we were in an equity trading application where volume could vary by a significant amount depending on market conditions)? How would you try to better manage costs in such situations where peak use is highly uncertain, and where redundancy is a key necessity?