

ESD264/1.264  
Lecture 18 case studies  
Fall, 2006

Short answers: two pages or less per case study. Be prepared to discuss them in class.

### **3. Network attack and defense**

Many (most?) companies guard against network attacks by using firewalls and SSL encryption on their financial traffic on the World Wide Web. Use the 'Top vulnerabilities' slide from lecture 18, which is more up to date than Anderson's list in chapter 18, as one of the sources of information to answer this question.

- a. List at least four significant risks that this strategy does not address.
- b. List measures to mitigate the risks you list.

### **4. Credit card costs and fraud**

- a. What is the credit card fraud rate in various countries? Find these numbers in Anderson chapter 19; they are dated but still approximately correct.
- b. Define the merchant discount. While Anderson notes it as 4 to 5%, large corporations (sellers of consumer products, including public transport agencies) often negotiate much lower rates, as low as 1.2 to 1.7%. What fraction of the merchant discount is taken by fraud costs?
- c. The credit card company pays the merchant nightly, but is paid by the customer only at the end of the month. Many cards offer 1% cash back or airline miles. What fraction of the merchant discount is taken by these costs? Assume the credit card company obtains funds at 6% per year, or about 0.5% per month. Assume that partners subsidize half the incentives (miles, cash back).
- d. How do the credit card issuers make money on credit cards, then? Discuss aggressive marketing, monthly finance charges, and aggressive chargebacks of fraudulent charges to merchants if they haven't followed all procedures required by the credit card company.
- e. Is there a long-term level of fraud that your company or organization will need to manage because it accepts credit cards?