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# E-Commerce Security & Fraud

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## Goals & Objectives

- Gaining a new perspective on e-commerce
- New venue frauds
- Prevention tips
- Vendor fraud
- Under your nose



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## Myth Bustin'

- Pet Peeves *(Human Melissa)*
  - http://www.vmyths.com
  - http://urbanlegends.about.com
- Marketing Magic
  - E-Business Explosion
  - Web Site Content is King
  - Global Expansion at Your Fingertips

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## B2B vs. B2C

**ON-LINE SALES UP 43% IN 2001**:
Statistics Canada says Canadian businesses received $10.4 billion in revenue from online sales in 2001, 78% from sales to other businesses. Online sales were up 43.4% from 2000 but were still only 0.5% of total business revenue for the year.

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## Content vs. Communication

"Ask people whether they would rather give up e-mail or the phone, and the responses will typically be split. However, when a similar choice is offered between the Web and e-mail, there is no contest. This is true for both individuals and large organizations. Intranets are all the rage, but it is e-mail that makes enterprises run."

http://www.angustel.ca/teleman/tm00e-07.html

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## "Global" Expansion

- 48% of the individuals connected to the Internet are from North America.
- The population of North America represents 5% of the world's population

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## Available Options for Business

- Extension of the Sales Process
- Expansion of the Sales Process
- Expansion of CRM/CSM Strategies

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## Extension of the Sales Process

- Low Risk – High Results
  - Order taking
  - Established accounts
  - Uses typical credit granting procedure

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## Expansion of the Sales Process

- High Risk – Low Results
  - Diligence sacrificed for Convenience
  - Inability to provide risk assessments
  - Security Holes and breaches

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## Sans.Org – May 29, 2002

California's state personnel database was compromised and exposed the names, social security numbers and payroll information about all 265,000 state workers. The intrusion took place on April 5, though it was not detected until May 7.

http://www.sfgate.com/cgi-in/article.cgi?file=/c/a/2002/05/25/MN179392.DTL

Steve Maviglio, spokesperson for the California Governor's office, in response essentially says "our security is not that bad and besides, this kind of thing happens all the time."

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## Sans.Org – May 29, 2002

Personal information belonging to Qwest long-distance customers who have chosen the paperless billing option was exposed on the Internet for at least a week. The company's on line bill paying system stopped checking passwords and allowed anyone entering a valid userid to gain access to account information. Exposed data includes names, addresses and credit card information.

http://online.securityfocus.com/news/431

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## Sans.Org – May 29, 2002

Thieves stole an authorization code from Ford Motor Credit to obtain credit reports on 13,000 individuals.

http://www.computerworld.com/securitytopics/security/cybercrime/story/0,10801,71459,00.html

Indiana State University Student Info Exposed Indiana State University inadvertently posted the names and social security numbers of 10,000 of its students online.

http://www.usatoday.com/life/cyber/tech/2002/05/22/isu-snafu.htm

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## Sans.Org – May 29, 2002

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## Expansion of CRM/CSM strategies

- Varied results
- ROI (all over the map)
  - Flash vs Function
  - Not a revenue generator
  - Needs market research before deployment

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## It's Not Like the Ads...

- Around 69 % of firms said that a lack of understanding by customers and suppliers remains the most significant barrier to e-business development.

CBI and PriceWaterhouseCoopers
http://www.nua.ie/surveys/?f=VS&art_id=905357840&rel=true

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## Internet Frauds

| 2000 Top Ten Frauds | | 2001 Top Ten Frauds | |
|---|---|---|---|
| Online Auctions | 78% | Online Auctions | 63% |
| General Merchandise Sales | 10% | General Merchandise Sales | 11% |
| Internet Access Services | 3% | Nigerian Money Offers | 9% |
| Work-At-Home | 3% | Internet Access Services | 3% |
| Advance Fee Loans | 2% | Information Adult Services | 3% |
| Hardware/Software Sales | 1% | Hardware/Software Sales | 2% |
| Nigerian Money Offers | 1% | Work-At-Home | 2% |
| Information Adult Services | 1% | Advance Fee Loans | 1% |
| Credit Card Issuing | .5% | Credit Card Issuing | .6% |
| Travel/Vacations | .5% | Business Opportunities | .4% |

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## Business Frauds

- It's not new, just different
  - Driving in Europe vs. Driving in North America
- Diligence gets replaced by Convenience
  - False Assumptions
  - Social Engineering
  - Human Nature

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## New Venue Frauds

- Identical to the phone and fax frauds but showing up as email
- Larger distribution with a smaller percentage of success (volume)
- Very low cost set-up and execution, very mobile and anonymous
- International jurisdiction

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## New Venue - Old Frauds

- Phony Advertising Space
- Bargain Corporate Travel Packages
- Office Furniture
- Office Supplies
- Specialty Advertising Products
- Charity Solicitations
- Call to Remove (809/900)

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## New Venue - Old Frauds

- False Invoice
- Advertisements That Look Like Invoices
- Advance Fee – Business Loans
- Identity Theft
- Vandalism
- False Authority
- Misleading Information

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## New Venue – New Merchandise

**Merchandise Fraud** with new products

*(web sites, consulting, network services, network security, web development , search engine placement)*

*In a gold rush very few people strike gold, but the ones that go home with their pockets full are the ones selling the shovels, pickaxes and gold pans.*

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## Credit Card Transactions

- Holding the Bag
  - The cardholder liability is limited to $50.
  - The issuing bank charges the merchant back for the amount often plus an additional $15 - $35 charge back fee.
  - The bank can potentially get the $50 from the cardholder plus the charge back fee.
  - The merchant is left holding the bag.

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## Credit Card Cyber Rules

- Use complete information including full address and phone numbers
- Do not accept orders using a “free” e-mail service. *(check the domain using www or filter the free e-mail addresses out)*

Virtually all fraud is committed using these services.

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## Credit Card Cyber Rules

- Phone verify the order *(cheap insurance)*
- Use the HTTP_USER_AGENT and the REMOTE_ADDR code in the form handler to record information about the computer and the IP address used for the order
- Reconsider “real time” processing. It removes the verification process and will process a fake order and the verification system can easily be compromised.

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## Credit Card Cyber Rules

- Foreign Orders
  - Increase Diligence – Risk Assessment required due to inability to recover or litigate.
  - Check the first six digits with your credit card processor to check the name and address of the issuing bank. *(Orders in Russia using a US based bank credit card).*

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## Credit Card Cyber Rules

- Consider using a “fax-back” verification for credit card transactions requiring a signature copy to be faxed back to you.
- Post a notice on your web site outlining your order verification process and conditions.

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## Vendor Fraud

- Do not deal with new suppliers until due diligence has been completed.
- Do not deal with solicitations for advertising from unknown publications or unknown directories.
- Be wary of deep discounts, free offers and other "**too-good-to-be-true**" offers.

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## Vendor Fraud

- Ask for samples of advertising specialties before you order.
- Do not give out information in response to a survey.
- Channel all billing authorizations, invoices, and bills through a single department.

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## Vendor Fraud

- Verify all goods and services before paying invoices.
- Create effective internal controls.
- Do spot checks and vendor reviews on a regular basis.

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## Protect Your Assets

**Apr 08 2002**: Newsbytes reports that nearly *90 percent* of US businesses and government agencies suffered hacker attacks within the past year.

This is according to a study conducted by the Federal Bureau of Investigations(FBI), which reveals that only a third of companies that suffered attacks reported the intrusions to law enforcement.

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## Protect Your Assets

The report also indicates that *85%* of businesses detected computer viruses on their networks during the past 12 months.

Around *78%* of companies surveyed also said that employees had abused their Internet access privileges by downloading pornography or pirated software.

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## Fundamentals of Protecting the Network

- Firewall
- Virus Checker
- Acceptable Use Policies

You don't need to be an electrician to use a light switch. The key is to ask "What it is like?" not asking "What is it?"

Ports, Firewalls, Virus, Worm, IDS, Monitoring, POP, SMTP, POTS, Router, Internet, TCP/IP, ID ten-T, PEKAC

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## Inside Threats

- The majority of fraud is still in-house
- The majority of fraud can be prevented
- Due diligence and common sense are the best tools to use
- Who's Watching the Watcher?

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## Mind Your Own Business

- Independent audits of the Network Architecture (*use different companies*).

*A network is an engineered product, its integrity should be Peer Reviewed by an **Engineer** with appropriate specializations (P.Eng based on a B.Sc. (CompEng) and certifications).*

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## Watching the Watcher

- Engineers – Regulated (P.Eng, EIT)
- Programmers – Educated (B.Sc. CompSci)
- Technicians – Diploma or Technical Certification
- Software Administrators – Specific Certification

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## Acceptable Use Policies, Corporate Culture, Checks and Balances

- Monitor and Review of Daily Network Activity.
- Risk Assessment and Contingency Planning.
- Confidentiality, Privacy and the Law

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## An Appeal

- Invest in fraud prevention and fraud prevention programs. Make it part of the corporate culture. You are going to pay for the crime anyway, fraud prevention is a lot less expensive than repairing the damage that fraud costs.

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## Questions and Contact Information

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