LEGISLATIVE AND POLICY OPTIONS TO PROMOTE E-COMMERCE AND EXPAND INTERNET USE

September 27, 2006

What is electronic commerce?

e-Commerce means any use of information and communication technology by a business that helps it to improve its interactions with customers or suppliers.

E-Commerce includes

- transactions or exchange of business-related information between:
  - business-to-business (B2B);
  - business-to- consumer (B2C);
  - business-to-government (B2G);
- the use of computers, as well as the use of mobile phones, voice-over-IP, CD-ROMs and other computer applications with no telecommunications component.
- domestic and international business.

Benefits of eCommerce to SMEs

Business Process	Sample Sub-Processes	Examples of e-Commerce Techniques
Marketing and Sales	Market research – learn more about potential customers and competitors	Web searches; examination of competitors' sites for information on pricing, problems, hiring, press releases, news articles; information-gathering on website visitors and customers.
	Marketing techniques to reach more customers and partners	Website; email follow-ups; prospect database; links with other sites; electronic marketplaces; web-events; one-to-one marketing techniques; electronic newsletters.
	Generating Sales	Email; advertisementsl product catalogs; descriptions of services, credentials, current customers
	Order Placement	Electronic Transaction Processing
Payment	Invoicing	Electronic Transaction Processing
	Settlement	Electronic settlement technique; Third party service
Product/Service Delivery	Set-up	Electronic mail, electronic transaction, shipment notification, directly or via 3rd party service
	Actual delivery	For electronic goods and services, electronic transmission
Customer Service	Post-sales support including add-on sales	Web-based FAQs and database; web-forms; email; call centers
Production	Creating the product or service to be sold. Enhancement of an existing product or service.	For documents or electronic goods – web-based collaboration, document sharing, email. Computer aided design or remote production services.
	Buying materials / procurement	e-procurement techniques including catalog orders, auctions, requests for information
Back-Office	Financial management	Web-based computer applications, either in-house or via 3rd party provider
	Payroll/Personnel	

What Can Government Do to Encourage SMEs to Engage in e-Commerce?

- Government itself should engage in e-Commerce.
- Governments can use ICT to provide better and more transparent service.
- Government can establish the legal and regulatory framework and public services that can encourage, or discourage, the growth of e-Commerce, and the use thereof by SMEs.

E-COMMERCE LEGISLATION

Why is there a need for e-Commerce Legislation?

- Legal enforceability of electronic contracts and electronic signatures.
- Functional Equivalence

The Ideal Situation in e-Commerce

If Person A sends an electronic document over the Internet to Person B, Person B should be assured of the following:

- *Data Origin Authentication*
- *Message Integrity*
- *Non-Repudiation*

THE CRUCIAL FACTOR IS TRUST!

Electronic Signatures

Electronic signatures generally refers to any distinctive mark, characteristic and/or sound in electronic form, representing the identity of a person and attached to or logically associated with the electronic data message or electronic document or any methodology or procedures employed or adopted by a person and executed or adopted by such person with the intention of authenticating or approving an electronic data message or electronic document.

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Electronic signatures ≠ Digital signatures

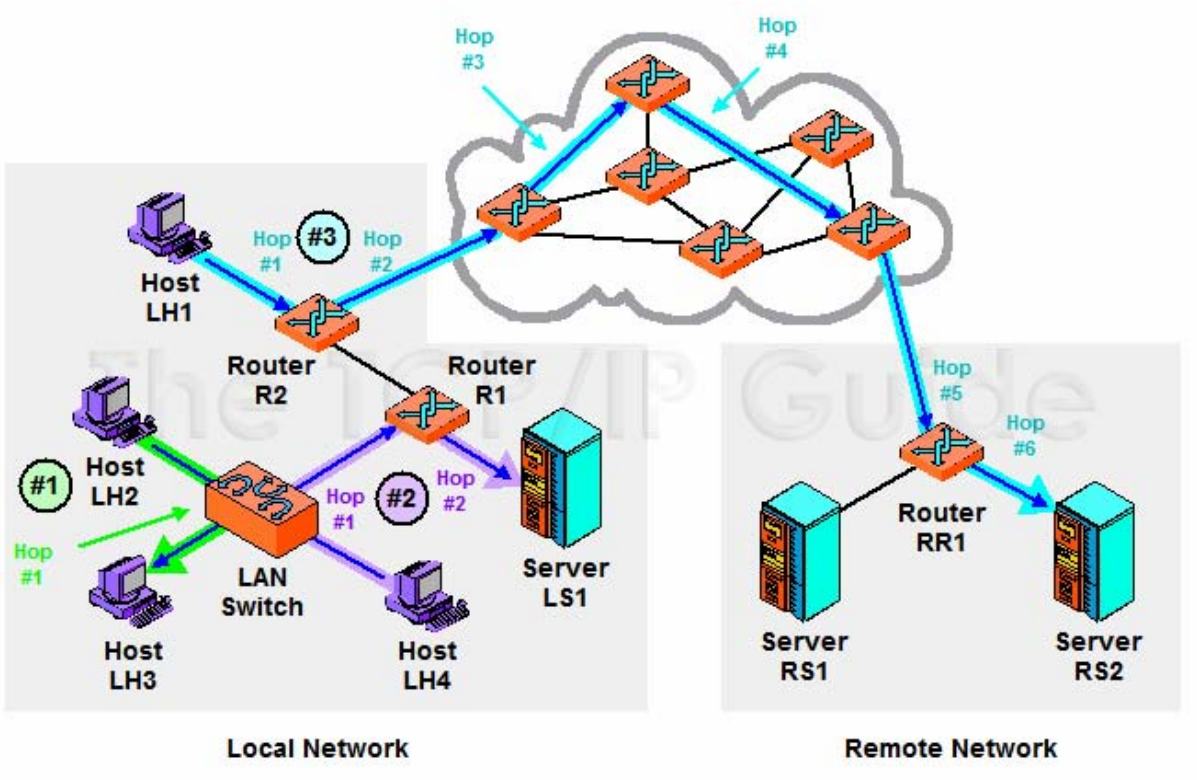
- A “digital signature” is an example of an electronic signature.
- Digital signatures are created and verified using cryptography, the branch of applied mathematics that concerns itself with transforming messages into seemingly unintelligible form and then back into the original form.

HOW DIGITAL SIGNATURES WORK

Some Definitions

- Encryption is simply the process by which information is scrambled by use of a code.
- A hash function is a process that creates a relatively small number that represents a much larger amount of electronic data.
- The resulting hash number is called the message digest.

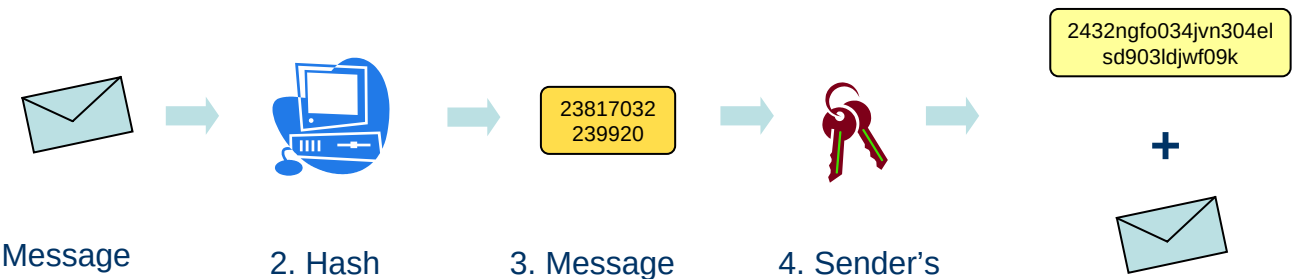
The Insecurity of the Internet



Public Key Cryptography

Public key cryptography eliminates the need for users to share a secret key, which makes it ideally suited for communications over open networks such as the Internet.

How Public Key Cryptography Works: (1) Sending a Message



1. Message from SME

2. Hash Function

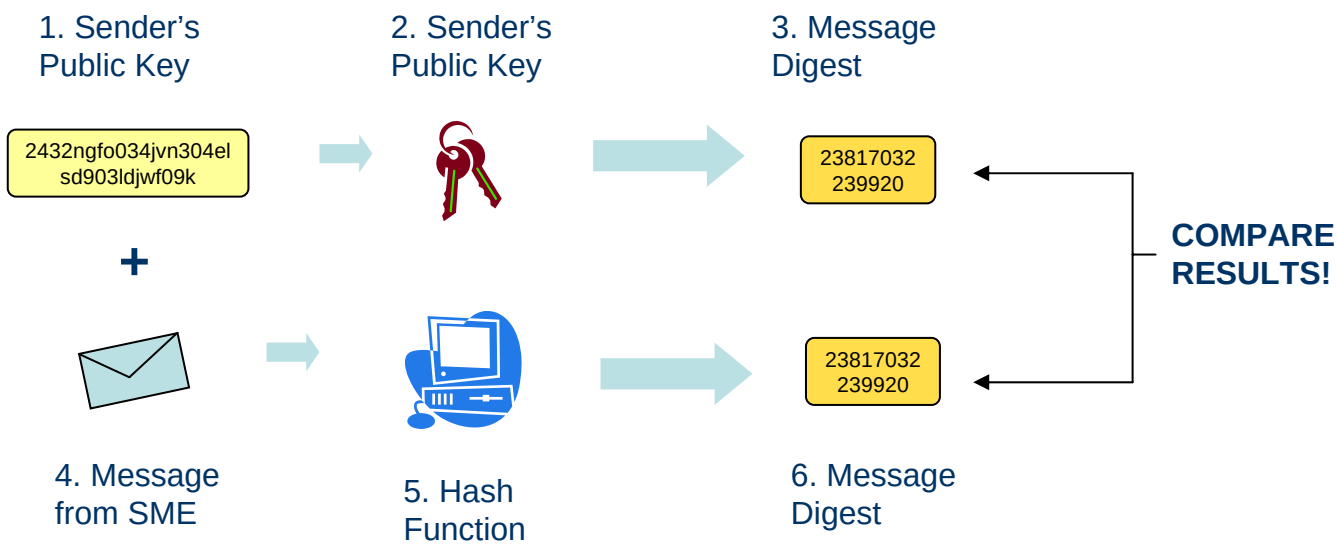
3. Message Digest

4. Sender's Private Key

What you receive: A digital signature together with the original message.

How Public Key Cryptography Works: (2) Decrypting the Message

TO VERIFY IDENTITY OF THE SENDER



TO ENSURE THE INTEGRITY OF THE MESSAGE

Main Disadvantage of Public Key Cryptography

What about transactions between people or companies that have never met?!

CERTIFICATION AUTHORITIES

- A ***"Trusted Third Party"***
- Vouches for the identity of a person who subscribes to their service by issuing a digital certificate that guarantees the identity of the person associated with a given public key.

How public key cryptography would work for transactions between persons who have never met.

What you would receive: A digital signature, the original message and a digital certificate from a Certification Authority.

Policy Issue: TECHNOLOGICAL NEUTRALITY

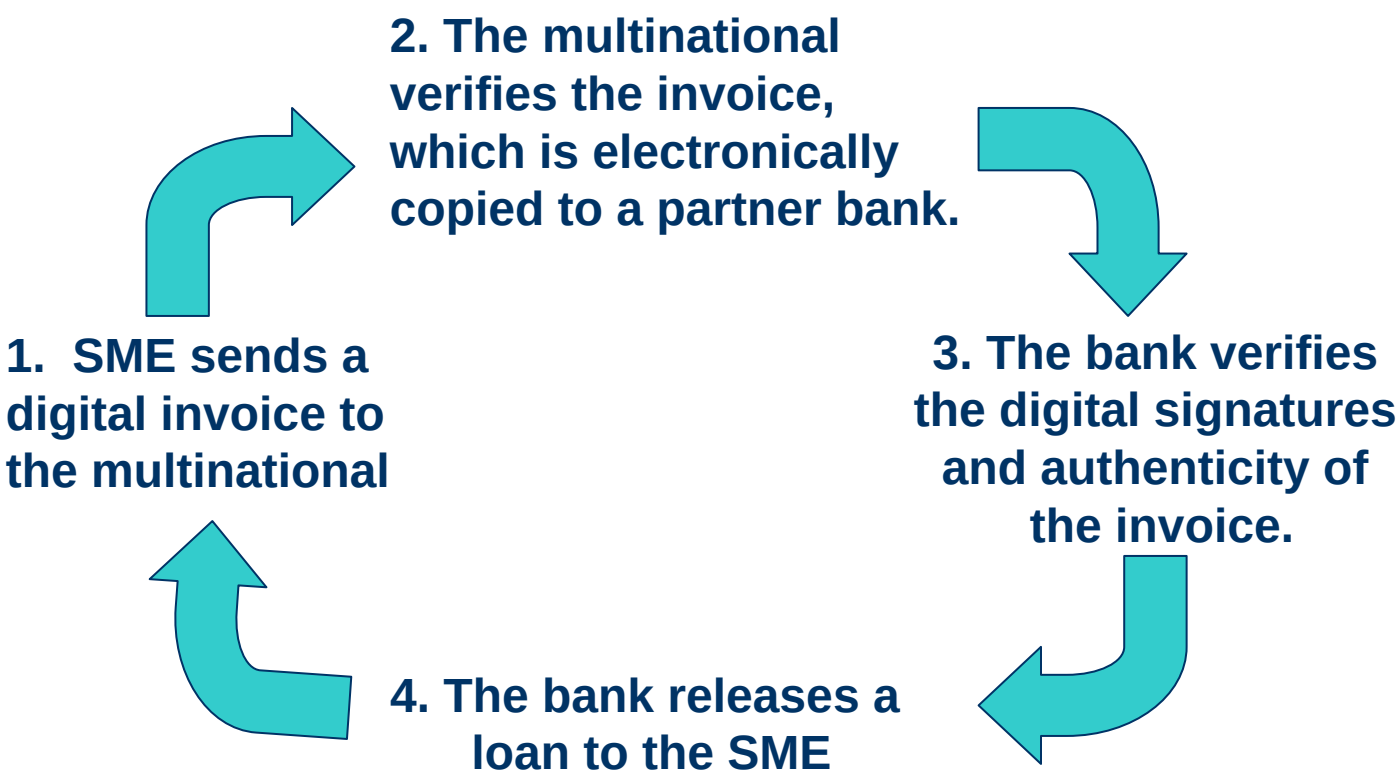
- When crafting laws or rules, governments must be aware that their actions could have an effect on the development of technology itself.
- Laws or rules could encourage or discourage investments in particular technologies.
- E.g. ***Should your laws formally endorse the validity of digital (or PKI) signatures?***

CASE STUDY: THE DOCUMENT HUB

Background

- A major food manufacturing multinational in the Philippines works with over 10,000 SMEs who supply it with materials and services.
- Payment procedures by the multinational to these SMEs takes time. The processing of invoices to the release of payments takes 45 to 60 days.
- To ensure their cash flow, the SMEs borrow money from banks, using their accounts receivable from the multinational as collateral. The loan can be processed in 2 to 4 weeks.
- The interest they pay is factored into the price they charge the multinational.

Solution: Go Paperless!



WIN-WIN!

- **For the SME**
  - **Gets its loan faster, from two to four weeks to as little as 2 days.**
  - **Gets its loan at a lower interest rate (because of multinational's good credit rating)**
- **For the Multinational**
  - **Savings of SME on lower interest rates are passed on to the multinational**

Legal Security and Reliability

- A major technology provider provides digital warehousing of the trade documents in a **DOCUMENT HUB**, and ensures that accurate, reliable and original digital documents will all be available in cases of dispute.

THE KEY

- The Philippine e-Commerce Act and subsequent rules on digital signatures and electronic authentication.
- These laws and rules that formally recognized digital documents and signatures as legally valid and enforceable.

THE END