

STRICTLY CONFIDENTIAL

SURVEY ON ICT USAGE AND E-COMMERCE IN ENTERPRISES OF THE FINANCIAL SECTOR 2008

	FOR OFFICIAL USE ONLY	
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	Legal Status	<input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
	Enterprise Size	<input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
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GENERAL INFORMATION:

1. The aim of the survey is to collect data on ICT usage, Internet usage and electronic commerce in enterprises. These data are necessary for the implementation of policy programmes of both the Government and the Private Sector.
2. All requested information must be supplied by the IT manager of the enterprise. Regarding the enterprise's background information (Module X), these should be provided by the General Manager or by any other person responsible.
3. An authorised employee of the Statistical Service will contact the IT manager of the enterprise by phone in order to arrange a visit for the completion of the questionnaire.
4. Definitions of the terms used in the questionnaire can be found in the glossary attached.
5. The reference period for the data is **January 2008**, unless the question refers to other specific period.
6. The collection of data is carried out in accordance with the Statistics Law 15(I)/2000. The Statistical Service is bound by the Statistics Law to treat all information obtained as **STRICTLY CONFIDENTIAL**. Your responses will be used solely for statistical purposes.

G. Chr. Georgiou
Director
Statistical Service

10 January, 2008

Module A: Use of computers and computer networks		
A1. Did your enterprise use computers, in January 2008?	Yes <input type="checkbox"/>	No <input type="checkbox"/> → Go to X1
A2. a) How many persons employed used computers at least once a week, in January 2008? If you can't provide this value, b) Please indicate an estimate of the percentage of the number of persons employed who used computers at least once a week, in January 2008?	<div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div></div> <div></div> <div></div> <div></div> </div> %	
A3. Was your enterprise using an internal computer network ⁽¹⁾ (e.g. LAN · Local Area Network) in January 2008?	Yes <input type="checkbox"/>	No <input type="checkbox"/> → Go to A5
A4. Did your enterprise use wireless access ⁽²⁾ within its internal computer network (e.g. wireless LAN), in January 2008?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A5. Did your enterprise have in use an internal home page (Intranet ⁽³⁾), in January 2008?	Yes <input type="checkbox"/>	No <input type="checkbox"/> → Go to A7
A6. In January 2008, was your enterprise using such systems for sharing the following information?		
	Yes	No
a) The general policy or strategy of the enterprise	<input type="checkbox"/>	<input type="checkbox"/>
b) Internal company newsletters or daily news	<input type="checkbox"/>	<input type="checkbox"/>
c) Day-to-day / working documents (e.g. for meeting)	<input type="checkbox"/>	<input type="checkbox"/>
d) Manuals, guides or training material	<input type="checkbox"/>	<input type="checkbox"/>
e) Product or services catalogues	<input type="checkbox"/>	<input type="checkbox"/>
A7. In January 2008, did your enterprise use dedicated applications for employees to access human resources services (e.g. see open job positions, request annual leave, view or download payslips, or other services)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A8. In January 2008, did your enterprise have an extranet ⁽⁴⁾ (a website or an extension of the Intranet with access restricted to business partners)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A9. Did your enterprise have in use, in January 2008, third party free or open source ⁽⁵⁾ operating systems, such as Linux ? (i.e. with its source code available, no copyright cost, and the possibility to modify and/or (re)distribute it)	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Module B: Access and use of the Internet⁽⁶⁾ (Scope: enterprises with Computers)		
B1. Did your enterprise have access to the Internet, in January 2008?	Yes <input type="checkbox"/>	No <input type="checkbox"/> → Go to C1
B2. a) How many persons employed used computers with access to the World Wide Web at least once a week, in January 2008? If you can't provide this value, b) Please indicate an estimate of the percentage of the number of persons employed who used computers with access to the World Wide Web at least once a week, during January 2008.	<div> <div> <div></div> <div></div> <div></div> <div></div> </div> </div> <div> <div> <div></div> <div></div> <div></div> </div> <div>%</div> </div>	
B3. Did your enterprise have the following types of external connection to the Internet, in January 2008?		
	Yes	No
a) Traditional Modem ⁽⁷⁾ (dial-up access over normal telephone line) or ISDN ⁽⁸⁾ connection	<input type="checkbox"/>	<input type="checkbox"/>
b) DSL ⁽⁹⁾ (xDSL ⁽¹⁰⁾ , ADSL, SDSL ect) connection	<input type="checkbox"/>	<input type="checkbox"/>
c) Other fixed internet connection (e.g. cable, leased line (e.g. E1 or E3 at level 1 and ATM at level 2), Frame Relay, Metro-Ethernet, PLC - Powerline communication, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
d) Mobile connection (e.g. analogue mobile phone, GSM, GPRS, UMTS, EDGE, CDMA2000 1xEVDO)	<input type="checkbox"/>	<input type="checkbox"/>
B4. Did your enterprise use the Internet for the following purposes, in January 2008? (as <u>consumer</u> of Internet services)		
	Yes	No
a) Banking and financial services	<input type="checkbox"/>	<input type="checkbox"/>
b) Training and education	<input type="checkbox"/>	<input type="checkbox"/>

B5.	Do you know that there are available government services on the Internet?	Yes <input type="checkbox"/>		No <input type="checkbox"/>			
B6.	Have you visited the Government Web Portal (http://www.cyprus.gov.cy)?	Yes <input type="checkbox"/>	No, but I know about it <input type="checkbox"/>	No, I do not know about it <input type="checkbox"/>			
B7.	Did your enterprise use the Internet for interaction with public authorities, during 2007?	Yes <input type="checkbox"/>		No <input type="checkbox"/> → Go to B10			
B8.	Did your enterprise use the Internet to interact with public authorities in the following ways, during 2007?						
		Yes		No			
	a) For obtaining information	<input type="checkbox"/>		<input type="checkbox"/>			
	b) For obtaining forms, e.g. tax forms	<input type="checkbox"/>		<input type="checkbox"/>			
	c) For returning filled in forms, e.g. provision of statistical information to public authorities	<input type="checkbox"/>		<input type="checkbox"/>			
	d) For treating an administrative procedure (e.g. declaration, registration, authorisation request) completely electronically without the need for additional paper work (including payment if required)	<input type="checkbox"/>		<input type="checkbox"/>			
	e) For submitting a proposal in a public electronic tender system (e-procurement) (in the system itself and not by email)	<input type="checkbox"/>		<input type="checkbox"/>			
B9.	Which of the following matters is your enterprise already dealing via Internet, to interact with public authorities?	Degree of Satisfaction 1:Not Satisfied at all, 2:A bit Satisfied, 3:Satisfied, 4:Very Satisfied					
	If yes, how satisfied are you with the service provided?	Yes	No	1	2	3	4
	a) Income Taxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) VAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) Social contributions for employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) THESEAS-Customs&Excise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e) Environment-related permits (Department of Labour Inspection)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f) Registration of job vacancies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	g) Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B10.	Which additional services would you want to be offered online by the government?						

B11. What are the reasons that your enterprise did not use the Internet for dealing with public services or administrations, during 2007?		
	Yes	No
a) The services needed are not available on-line or difficult to find	<input type="checkbox"/>	<input type="checkbox"/>
b) Personal contact is missing	<input type="checkbox"/>	<input type="checkbox"/>
c) The procedure cannot be completed via Internet	<input type="checkbox"/>	<input type="checkbox"/>
d) Immediate response is missing	<input type="checkbox"/>	<input type="checkbox"/>
e) Concerned about protection and security of the enterprise's data	<input type="checkbox"/>	<input type="checkbox"/>
f) The services provided are not user friendly	<input type="checkbox"/>	<input type="checkbox"/>
g) Concerned about security of payments via the Internet	<input type="checkbox"/>	<input type="checkbox"/>
h) Lack of motive (e.g. financial motive, extension of application submission etc.)	<input type="checkbox"/>	<input type="checkbox"/>
i) None of the above, but other	<input type="checkbox"/>	<input type="checkbox"/>
B12. Did your enterprise have a Website⁽¹¹⁾ or Home Page, in January 2008?		
	Yes	No
	<input type="checkbox"/>	<input type="checkbox"/>
		→ Go to B14
If yes, give the address of your website:		
B13. Did the Web Site provide the following facilities for your enterprise, in January 2008?		
	Yes	No
a) Product catalogues or price lists	<input type="checkbox"/>	<input type="checkbox"/>
b) Possibility for visitors to customise or design the products	<input type="checkbox"/>	<input type="checkbox"/>
c) Online ordering or reservation or booking, e.g. shopping cart	<input type="checkbox"/>	<input type="checkbox"/>
d) Online payment	<input type="checkbox"/>	<input type="checkbox"/>
e) Personalised content in the website for regular/repeated visitors	<input type="checkbox"/>	<input type="checkbox"/>
f) Advertisement of open job positions or online job application	<input type="checkbox"/>	<input type="checkbox"/>
B14. Was your enterprise, in January 2008, using a digital signature⁽¹²⁾ in any message sent, i.e. using encryption methods that assure the authenticity and integrity of the message (uniquely linked to and capable of identifying the signatory and where any subsequent change to the message is detectable)?		
	Yes	No
	<input type="checkbox"/>	<input type="checkbox"/>

Module C: Automated Data Exchange (Scope: enterprises with Computers)			
Automated data exchange between the enterprise and other ICT systems outside the enterprise means: - exchange of messages (e.g. orders, invoices, payment transactions or description of goods) - via the internet or other computer networks - in an agreed format which allows its automatic processing (e.g. XML, EDIFACT etc.) - without the individual message being manually typed.			
C1. In January 2008, was your enterprise using such automated data exchange?	Yes <input type="checkbox"/>	No <input type="checkbox"/> → Go to C4	
C2. Was automated data exchange used for the following purposes?			
	Yes	No	
a) Sending orders to suppliers	<input type="checkbox"/>	<input type="checkbox"/>	
b) Receiving e-invoices ⁽¹³⁾	<input type="checkbox"/>	<input type="checkbox"/>	
c) Receiving orders from customers	<input type="checkbox"/>	<input type="checkbox"/>	
d) Sending e-invoices	<input type="checkbox"/>	<input type="checkbox"/>	
e) Sending or receiving product information (e.g. catalogues, price lists, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	
f) Sending or receiving transport documents (e.g. consignment notes)	<input type="checkbox"/>	<input type="checkbox"/>	
g) Sending payment instructions to financial institutions	<input type="checkbox"/>	<input type="checkbox"/>	
h) Sending or receiving data to/from public authorities (e.g. tax returns, statistical data, [national examples], etc.)	<input type="checkbox"/>	<input type="checkbox"/>	
C3. Were the following formats used for the automated data exchange?			
	Yes	No	
a) EDIFACT or similar standards (e.g. EANCOM, ANSI X12)	<input type="checkbox"/>	<input type="checkbox"/>	
b) XML based standards, for example ebXML, RosettaNet, UBL, papiNET	<input type="checkbox"/>	<input type="checkbox"/>	
c) Proprietary standards agreed between you and other organisations	<input type="checkbox"/>	<input type="checkbox"/>	
Go to question D1			
C4. Were the following issues reasons for the enterprise not to use automated data exchange?			
	Yes	No	Don't know
a) No interest in using it, because it isn't relevant for the business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Lack of expertise in-house for its implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Return on the investment too low or not clear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Lack of appropriate software for the specific sector/size of the enterprise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Difficulty with agreeing common standards with business partners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Uncertainty of the legal status of the messages exchanged	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Module D: Sharing electronically information on the Supply Chain Management (Scope: enterprises with Computers)		
Sharing electronically information on the supply chain management means: - exchanging all types of information with suppliers and/or customers in order to coordinate the availability and delivery of products or services to the final consumer; - including information on demand forecasts, inventories, production, distribution or product development; - via computer networks, not only the Internet but also other connections between computers of different enterprises. - it can be from you to your suppliers/customers or the other way around. This information may be exchanged via websites or via automated data exchange (recall definition in module C), but it excludes normal e-mail messages manually written.		
D1. In January 2008, was your enterprise regularly sharing electronically information on the supply chain management with your suppliers or customers?	Yes <input type="checkbox"/>	No <input type="checkbox"/> → Go to E1
D2. Was your enterprise regularly sharing electronically the following information with its <u>suppliers</u>, in January 2008?		
	Yes	No
a1) Demand forecasts	<input type="checkbox"/>	<input type="checkbox"/>
a2) Inventory levels	<input type="checkbox"/>	<input type="checkbox"/>
a3) Production plans	<input type="checkbox"/>	<input type="checkbox"/>
b) Progress of deliveries (i.e. distribution of raw materials or finished products)	<input type="checkbox"/>	<input type="checkbox"/>
D3. Was your enterprise regularly sharing electronically the following information with its <u>customers</u>, in January 2008?		
	Yes	No
a1) Demand forecasts	<input type="checkbox"/>	<input type="checkbox"/>
a2) Inventory levels	<input type="checkbox"/>	<input type="checkbox"/>
a3) Production plans	<input type="checkbox"/>	<input type="checkbox"/>
b) Progress of deliveries (i.e. distribution of raw materials or finished products)	<input type="checkbox"/>	<input type="checkbox"/>
D4. Were the following methods used for the electronic exchange of this information, in January 2008?		
	Yes	No
a) Websites (yours, those of your business partners or web portals)	<input type="checkbox"/>	<input type="checkbox"/>
b) Automated data exchange (XML, EDIFACT, etc.)	<input type="checkbox"/>	<input type="checkbox"/>

Module E: Automatic share of information within the enterprise			
(Scope: enterprises with Computers)			
Sharing information electronically and automatically between different functions of the enterprise means any of the following: <ul style="list-style-type: none"> - Using one single software application to support the different functions of the enterprise; - Data linking between the software applications that support the different functions of the enterprise - Using a common database or data warehouse accessed by the software applications that support the different functions of the enterprise; - Automated data exchange between different software systems (recall definition in module C); 			
E1. In January 2008, when your enterprise received a sales order (either electronically or not), was the relevant information about it shared electronically and automatically with the software used for the following functions?		Yes	No
a) Your management of inventory levels		<input type="checkbox"/>	<input type="checkbox"/>
b) Your accounting		<input type="checkbox"/>	<input type="checkbox"/>
c) Your production or services management		<input type="checkbox"/>	<input type="checkbox"/>
d) Your distribution management		<input type="checkbox"/>	<input type="checkbox"/>
E2. In January 2008, when your enterprise sent a purchase order (either electronically or not), was the relevant information about it shared electronically and automatically with the software used for the following functions?		Yes	No
a) Your management of inventory levels		<input type="checkbox"/>	<input type="checkbox"/>
b) Your accounting		<input type="checkbox"/>	<input type="checkbox"/>
E3. In January 2008, did your enterprise have in use an ERP⁽¹⁴⁾ software package to share information on sales and/or purchases with other internal functional areas (for example, finance, planning, marketing, etc.)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
E4. In January 2008, did your enterprise have in use any software application for managing information about clients (so called CRM⁽¹⁵⁾) that allows it to:		Yes	No
a) Capture, store and make available to other business functions the information about its clients?		<input type="checkbox"/>	<input type="checkbox"/>
b) Make analysis of the information about clients for marketing purposes (setting prices, make sales promotion, choose distribution channels, etc.)?		<input type="checkbox"/>	<input type="checkbox"/>

Module F: Perceived benefits of the use of ICT

(Scope: enterprises with Computers)

The **implementation of an ICT project** refers to the introduction of a new or updated ICT (e.g. a new/updated software application or a new/updated hardware) or a change in the use of an existing ICT.

Examples of ICT projects are: a new or a restructured website, a new internal homepage, the starting of using automated data exchange or the starting of receiving orders via computer networks.

F1. In January 2008, to what degree have ICT projects implemented in the last 2 years caused improvements in the following areas, compared to the previous task handling?

If your enterprise has not had any ICT projects, please tick all boxes 'not applicable'.

	Minor / None	Moderate	Significant	Don't know / Not applicable
a) Reorganisation and simplification of work routines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Release of resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Higher earnings for the enterprise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Development of new products and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Module X: Background information

X1. Main economic activity of the enterprise, during 2007
(description)

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X2. Average number of persons employed, during 2007

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Module Z: General Information		
Z1. If you have any comments about the survey, please write down below:		
<div style="border: 1px solid black; height: 100px; margin: 5px 0;"></div>		
Z2.	Name of the person who answered the questionnaire:	
	Position in the enterprise:	
	Telephone:	
	Fax:	
	E-mail:	
Z3.	Name of the person who completed the questionnaire:	
	Signature:	
	Date:	

TO BE COMPLETED BY THE ENUMERATOR:

Z4.	Completion of the questionnaire::	
	a) The questionnaire is completed.....	1
	b) The enterprise has closed.....	2
	c) The enterprise can not be located.....	3
	d) The enterprise refuses to cooperate.....	4
	e) The enterprise was closed during the collection of the data.....	5
	f) Merge with another enterprise.....	6
	g) Other reasons for no completion	7
	Please specify:	
	<div style="border: 1px solid black; height: 100px; margin: 5px 0;"></div>	

GLOSSARY

- (1) **Internal computer network** An internal computer network is a group of at least two computers connected together using a telecommunication system for the purpose of communicating and sharing resources within an enterprise. It typically connects personal computers, workstations, printers, servers, and other devices. It is used usually for internal file exchange between connected users; intra business communications (internal e-mail, internal web based interface etc), shared access to devices (printers etc) and other applications (databases) or for joint business processes.
- LAN (Local Area Network)** - A network for communication between computers confined to a single building or in closely located group of buildings, permitting users to exchange data, share a common printer or master a common computer, etc.
- (2) **Wireless access** The use of wireless technologies such as radio-frequency, infrared, microwave, or other types of electromagnetic or acoustic waves, for the last internal link between users devices (such as computers, printers, etc) and a LAN backbone line(s) within the enterprise's working premises. It includes mainly Wi-fi and Bluetooth technologies.
- (3) **Intranet** An internal company communications network using Internet protocol allowing communications within an organisation.
- (4) **Extranet** A closed network that uses Internet protocols to securely share enterprise's information with suppliers, vendors, customers or other businesses partners. It can take the form of a secure extension of an Intranet that allows external users to access some parts of the enterprise's Intranet. It can also be a private part of the enterprise's website, where business partners can navigate after being authenticated in a login page.
- (5) **Free / Open Source** Open source software refers to computer software under an open source license. An open-source license is a copyright license for computer software that makes the source code available under terms that allow for modification and redistribution without having to pay the original author. Such licenses may have additional restrictions such as a requirement to preserve the name of the authors and the copyright statement within the code.
- Related to the Open Source Definition is the Free Software definition by the Free Software Foundation, which attempts to capture what is required for a program license to qualify as being free-libre software. In practice, licenses meet the open source definition almost always also meet the Free software definition. All licenses reported to meet the free software definition as of 2005 also meet the open source definition.
- (6) **Internet** Relates to Internet Protocol based networks: www, Extranet over the Internet, EDI over the Internet, Internet-enabled mobile phones.

- (7) **Modem** Device that modulates outgoing digital signals from a computer or other digital device to analogue signals for a conventional copper twisted pair telephone line and demodulates the incoming analogue signal and converts it to a digital signal for the digital device.
- (8) **ISDN** Integrated Services Digital Network.
- (9) **DSL**
(Digital Subscriber Line) A high-bandwidth (broadband), local loop technology to carry data at high speeds over traditional (copper) telephone lines.

Broadband

No generally accepted definition of broadband can be given. Common definitions refer to either: a) the connection speeds measured in kbps or mbps (in at least the downstream direction) or bandwidth measured by the amount of digital bits that one can transmit per second, measured in kbps or mbps; b) the type of connection, of which the following provide broadband access: xDSL (ADSL, SDSL, etc), Cable TV network (cable modem), UMTS (mobile phone), or other (e.g. satellite, fixed wireless); c) the content that is provided with the examples of high definition movie trailers, short films, flash animation, three dimensional video games, video on demand, internet radio, streaming video, video conferencing and so on.

- (10) **xDSL** Digital Subscriber Line. DSL technologies are designed to increase bandwidth available over standard copper telephone wires. Includes IDSL, HDSL, SDSL, ADSL, RADSL, VDSL, DSL-Lite.

- (11) **Web site** Location on the World Wide Web identified by a Web address. Collection of Web files on a particular subject that includes a beginning file called a home page. Information is encoded with specific languages (Hypertext mark-up language (HTML), XML, Java) readable with a Web browser, like Netscape's Navigator or Microsoft's Internet Explorer.

- (12) **e-Signature** An e-signature is some kind of electronic information attached to or associated with a contract or another message used as the legal equivalent to a written signature. Electronic signature is often used to mean either a signature imputed to a text via one or more of several electronic means, or cryptographic means to add non-repudiation and message integrity features to a document. Digital signature usually refers specifically to a cryptographic signature, either on a document, or on a lower-level data structure.

For either of them to be considered a signature they must have a legal value, otherwise they are just a piece of communication.

Some web pages and software EULAs claim that various electronic actions are legally binding signatures, and so are an instance of electronic signature. For example, a web page might announce that, by accessing the site at all, you have agreed to a certain set of terms and conditions. The legal status of such claims is uncertain.

An electronic signature can also be a digital signature if it uses cryptographic methods to assure both message integrity and authenticity. Because of the use of message integrity mechanisms, any changes to a digitally signed document will be readily detectable if tested for, and the attached signature cannot be taken as valid.

It is important to understand the cryptographic signatures are much more than an error checking technique akin to checksum algorithms, or even high reliability error detection and correction algorithms such as Reed-Solomon. These can offer no assurance that the text has not been tampered with, as all can be regenerated as needed by a tamperer. In addition, no message integrity protocols include error correction, for to do so would destroy the tampering detection feature.

Popular electronic signature standards include the OpenPGP standard supported by PGP and GnuPG, and some of the S/MIME standards (available in Microsoft Outlook). All current cryptographic digital signature schemes require that the recipient have a way to obtain the sender's public key with assurances of some kind that the public key and sender identity belong together, and message integrity measures (also digital signatures) which assure that neither the attestation nor the value of the public key can be surreptitiously changed. A secure channel is not required.

A digitally signed text may also be encrypted for protection during transmission, but this is not required when the digital signature has been properly carried out. Confidentiality requirements will be the guiding consideration.

(13) e-Invoice

An e-invoice is an invoice where all data is in digital format and it can be processed automatically. A distinctive feature of an e-invoice is automation. E-invoice will be transferred automatically in inter-company invoicing from the invoice issuer's or service provider's system directly into the recipient's financial or other application.

The transmission protocol might be XML, EDI or other similar format.

(14) ERP

Enterprise Resource Planning (ERP) consists of one or of a set of software applications that integrate information and processes across the several business functions of the enterprise. Typically ERP integrates planning, procurement, sales, marketing, customer relationship, finance and human resources.

ERP software can be customised or package software. These latter are single-vendor, enterprise wide, software packages, but they are built in a modular way allowing enterprises to customise the system to their specific activity implementing only some of those modules.

ERP systems typically have the following characteristics:

1. are designed for client server environment (traditional or web-based);
2. integrate the majority of a business's processes;
3. process a large majority of an organization's transactions;
4. use enterprise-wide database that stores each piece of data only once;
5. allow access to the data in real time.

(15) CRM

Customer Relationship Management (CRM) is a management methodology which places the customer at the centre of the business activity, based in an intensive use of information technologies to collect, integrate, process and analyse information related to the customers.

One can distinguish between:

1. Operational CRM – Integration of the front office business processes that are in contact with the customer.
2. Analytical CRM – Analysis, through data mining, of the information available in the enterprise on its customers. This aims to gather in depth knowledge of the customer and how to answer to its needs.

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