Glossary

access controls Hardware and software measures, such as user IDs and passwords, used to control access to information systems.

access point (AP) An arrangement consisting of a device connected to the Internet on one end and to a router on the other end. All wireless devices link to the Internet through the router.

affiliate programme An arrangement by which a website promotes sales for another website through a link to the seller's site, and for which the affiliate is compensated. There are various schemes of compensation to affiliates.

agile methods Software development methods that emphasize constant communication with clients (end users) and fast development of code, as well as modifications as soon as they are needed.

antivirus software Software designed to detect and intercept computer viruses.

applet A small software application, usually written in Java or another programming language for the Web.

application service provider (ASP) A firm that hires the use of software applications through an Internet link.

application software Software developed to meet general or specific business needs.

application-specific software A collective term for all computer programs that are designed specifically to address certain business problems, such as a program written to deal with a company's market research effort.

arithmetic logic unit (ALU) The electronic circuitry in the central processing unit of a computer responsible for arithmetic and logic operations.

assembly languages Second-generation programming languages that assemble several bytes into groups of characters that are human-readable to expedite programming tasks.

asymmetric (public key) encryption Encryption technology in which a message is encrypted with one key and decrypted with another.

atomic transaction A transaction whose entry is not complete until all entries into the appropriate files have been successfully completed. It is an important data entry control. (Atom = Indivisible)

audit trail Names, dates and other references in computer files that can help an auditor track down the person who used an IS for a transaction, legal or illegal.

authentication The process of ensuring that the person who sends a message to or receives a message from another party is indeed that person.

B2B Business-to-business, a term that refers to transactions between businesses, often through an Internet link.

B2C Business-to-consumer, a term that refers to transactions between a business and its customers, often through an Internet link.

backbone The network of copper lines, optical fibres and radio satellites that supports the Internet.

backup Periodic duplication of data in order to guard against loss.

backward compatibility Compatibility of a device with another device that supports only an older standard. For example, USB 2.0 is backward-compatible with computers that support only USB 1.1 devices.

bandwidth The capacity of the communications channel, practically its speed; the number of signal streams the channel can support, usually measured as number of bits per second. A greater bandwidth also supports a greater bit rate, i.e., transmission speed.

banners Advertisements that appear on a web page.

baseband A communications channel that allows only a very low bit rate in telecommunications, such as unconditioned telephone twisted pair cables.

benchmarking The measurement of time intervals and other important characteristics of hardware and software, usually when testing them before a decision to purchase or reject.

beta site An organization that agrees to use a new application for a specific period and report errors and unsatisfactory features to the developer in return for free use and support.

beta version A pre-release version of a software application that is given to a company for extensive testing prior to the full release.

bill of materials (BOM) A list showing an explosion of the materials that go into the production of an item. Used in planning the purchase of raw materials.

biometric A unique, measurable characteristic or trait of a human being used for automatically authenticating a person's identity. Biometric technologies include digitized fingerprints, retinal pictures and voice. Used with special hardware to uniquely identify a person who tries to access a facility or an IS, instead of a password.

bit Binary digit; either a zero or a one. The smallest unit of information used in computing.

bits per second (bps) The measurement of the capacity (or transmission rate) of a communications channel.

blackouts and brownouts Periods of power loss or a significant fall in power. Such events may cause computers to stop working, or even damage them. Computers can be protected against these events by using proper equipment, such as UPS (uninterruptible power supply) systems.

bleeding edge The situation in which a business fails because it tries to be on the technological leading edge.

blog A contraction of 'web log'. A website where participants post their opinions on a topic or set of related topics; these postings are listed in chronological order.

Bluetooth A personal wireless network protocol. It enables wireless communication between input devices and computers and among other devices within 10 metres.

brainstorming The process of a group collaboratively generating new ideas and creative solutions to problems.

bricks-and-mortar A popular term for companies that use physical structure for doing business directly with other businesses and consumers, such as stores. Often used to contrast with businesses that sell only online.

bridge A device connecting two communications networks that use similar hardware.

broadband High-speed digital communication, sometimes defined as at least 200 kbps. T1, cable modem and DSL provide broadband.

broadband over power lines (BPL) A broadband service provided over electric power lines.

bus The set of wires or soldered conductors in the computer through which the different components (such as the CPU and RAM) communicate. It also refers to a data communications topology whereby communicating devices are connected to a single, open-ended medium.

business intelligence (BI) Information gleaned from large amounts of data, usually a data warehouse or online databases; a BI system discovers not-yet-known patterns, trends and other useful information that can help improve the organization's performance.

business recovery plan Organizational plan that prepares for disruption in information systems, detailing what should be done and by whom, if critical information systems fail or become untrustworthy; also called business recovery plan and disaster recovery plan. Also known as business continuity plan.

byte A standard group of 8 bits.

C2C Consumer-to-consumer business. The term usually refers to web-based transactions between two consumers via the servers of an organization, such as auctions and sales. eBay is an example of a C2C site.

cash management system (CMS) Information system that helps reduce the interest and fees that organizations have to pay when borrowing money and increases the yield that organizations can receive on unused funds.

cathode-ray tube (CRT) A display (for a computer or television set) that uses an electronic gun to draw and paint on the screen by bombarding pixels on the internal side of the screen.

central processing unit (CPU) The circuitry of a computer microprocessor that fetches instructions and data from the primary memory and executes the instructions. The CPU is the most important electronic unit of the computer.

certificate authority (CA) An organization that issues digital certificates, which authenticate the holder in electronic business transactions.

character The smallest piece of data in the data hierarchy.

chief information officer (CIO) The highest-ranking IS officer in the organization, usually a vice president, who oversees the planning, development and implementation of IS and serves as leader to all IS professionals in the organization.

chief security officer (CSO) Also called chief information security officer (CISO), the highest-ranking officer in charge of planning and implementing information security measures in the organization, such as access codes and backup procedures.

chief technology officer (CTO) A high-level corporate officer who is in charge of all information technology needs of the organization. Sometimes the CTO reports to the chief information officer, but in some companies this person practically serves as the CIO.

ciphertext A coded message designed to authenticate users and maintain secrecy.

circuit switching A communication process in which a dedicated channel (circuit) is established for the duration of a transmission; the sending node signals the receiving node; the receiver acknowledges the signal and then receives the entire message.

clickstream tracking The use of software to record the activities of a person at websites. Whenever the person clicks a link, the activity is added to the record.

clock rate The rate of repetitive machine cycles that a computer can perform; also called frequency. Measured in GHz.

closed system A system that stands alone, with no connection to another system.

coaxial cable A transmission medium consisting of thick copper wire insulated and shielded by a special sheath of meshed wires to prevent electromagnetic interference. Supports high-speed telecommunication.

co-location The placement and maintenance of a web server with servers of other subscribers of the service provider. The servers are co-located in the same facility.

competitive advantage A position in which one dominates a market; also called strategic advantage.

compiler A program whose purpose is to translate code written in a high-level programming language into the equivalent code in machine language for execution by the computer.

composite key In a data file, a combination of two fields that can serve as a unique key to locate specific records.

computer-aided design (CAD) Special software used by engineers and designers that facilitates engineering and design work.

computer-aided manufacturing (CAM) Automation of manufacturing activities by use of computers. Often,

the information for the activity comes directly from connected computers that were used for engineering the parts or products to be manufactured.

consumer profiling The collection of information about individual shoppers in order to know and serve consumers better.

control unit The circuitry in the CPU that fetches instructions and data from the primary memory, decodes the instructions, passes them to the ALU for execution and stores the results in the primary memory.

controls Constraints applied to a system to ensure proper use and security standards.

conversion The process of abandoning an old information system and implementing a new one.

conversion rate In marketing, the proportion of shoppers who end up buying from the organization. The term also applies to online shopping.

cookie A small file that a website places on a visitor's hard disk so that the website can remember something about the visitor later, such as an ID number or username.

cost/benefit analysis An evaluation of the costs incurred by an information system and the benefits gained by the system.

custom-designed (tailored) software Software designed to meet the specific needs of a particular organization or department; also called tailored software.

customer relationship management (CRM) A set of applications designed to gather and analyse information about customers.

cut-over conversion (direct changeover) A swift switch from an old information system to the new.

dashboard A graphic presentation of organizational performance. Dashboards display in an easy-to-grasp visual manner metrics, trends and other helpful information that is the result of processing of business intelligence applications.

data Facts about people, other subjects and events. These may be manipulated and processed to produce information.

data dictionary The part of the database that contains information about the different sets of records and fields, such as their source and who may change them.

data flow diagram (DFD) A graphical method to communicate the data flow in a business unit. Usually serves as a blueprint for a new information system in the development process. The DFD uses four symbols for entity, process, data store and data flow.

data integrity Accuracy, timeliness and relevance of data in a context.

data mart A collection of archival data that is part of a data warehouse, usually focusing on one aspect of the organization such as sales of a family of products or daily revenues in a geographic region.

data mining Using a special application that scours large databases for relationships among business events, such as items typically purchased together on a certain day of the week, or machinery failures that occur along with a specific use mode of the machine. Instead of the user querying the databases, the application dynamically looks for such relationships.

data modelling The process of charting existing or planned data stores and flows of an organization or one of its units. It includes charting of entity relationship diagrams.

data processing The operation of manipulating data to produce information.

data redundancy The existence of the same data in more than one place in a computer system. Although some data redundancy is unavoidable, efforts should be made to minimize it.

data warehouse A huge collection of historical data that can be processed to support management decision-making.

data word The number of bits that a CPU retrieves from memory for processing in one machine cycle. When all other conditions are equal, a machine with a larger data word is faster.

database A collection of shared, interrelated records, usually in more than one file. An approach to data management that facilitates data entry, update and manipulation.

database administrator (DBA) The individual in charge of building and maintaining organizational databases.

database approach An approach to maintaining data that contains a mechanism for tagging, retrieving and manipulating data.

database management system (DBMS) A computer program that allows the user to construct a database, populate it with data and manipulate the data.

decision support system (DSS) Information system that aids managers in making decisions based on built-in models. DSSs comprise three modules: data management, model management and dialogue management. DSSs may be an integral part of a larger application, such as an ERP system.

dedicated hosting An arrangement in which a web hosting organization devotes an entire server to only the website of a single client organization, as opposed to having multiple clients' sites share one server.

denial of service (DoS) The inability of legitimate visitors to log on to a website when too many malicious requests are launched by an attacker. Most DoS attacks are distributed (DDoS).

dial-up connection A connection to the Internet through a regular telephone and modem. Dial-up connections are slow, as opposed to broadband connections.

digital certificates Computer files that serve as the equivalent of ID cards.

digital signature An encrypted digest of the text that is sent along with a message that authenticates the identity of the sender and guarantees that no one has altered the sent document.

digital subscriber line (DSL) Technology that relieves individual subscribers of the need for the conversion of digital signals into analogue signals between the telephone exchange and the subscriber jack. DSL lines

are linked to the Internet on a permanent basis and support bit rates significantly greater than a normal telephone line between the subscriber's jack and the telephone exchange.

dimensional database A database of tables, each of which contains aggregations and other manipulated information gleaned from the data to speed up the presentation by online processing applications. Also called multidimensional database.

direct access The manner in which a record is retrieved from a storage device, without the need to seek it sequentially. The record's address is calculated from the value in its logical key field.

direct changeover *See* cut-over conversion.

disaster recovery plan *See* business recovery plan.

distributed computing The connection of several (relatively) small computers to give the processing power of one larger computer.

distributed denial of service (DDoS) Multiple log-in requests from many computers to the same website, so that the website is jammed with requests and cannot accept enquiries of legitimate visitors.

DMZ Demilitarized zone, a network of computers and other devices connected to the Internet where visitors are not allowed direct access to other resources connected to the DMZ. DMZs are used to serve visitors while minimizing risk of unauthorized access.

DNS (domain name system) Hardware and software making up a server whose purpose is to resolve domain names (converting them back to IP numbers) and routing messages on the Internet.

domain name The name assigned to an Internet server or to a part of a server that hosts a website.

downtime The unplanned period of time during which a system does not function.

drill down The process of finding the most relevant information for executive decision-making within a database or data warehouse by moving from more general information to more specific details, such as from performance of a division to performance of a department within the division.

dynamic IP number The IP number assigned to a computer that is connected to the Internet intermittently for the duration of the computer's connection.

dynamic web page A web page whose contents change while the visitor watches it.

e-commerce Business activity that is electronically executed between parties, such as between two businesses or between a business and a consumer.

economic order quantity (EOQ) The optimal (cost-minimizing) quantity of a specific raw material that allows a business to minimize overstocking and save cost without risking understocking and missing production deadlines.

effectiveness The measure of how well a job is performed.

efficiency The ratio of output to input; the greater the ratio, the greater the efficiency.

electronic funds transfer (EFT) The electronic transfer of cash from an account in one bank to an account in another bank.

electronic product code (EPC) A product code embedded in a radio frequency identification (RFID) tag. Similar to the older UPC.

employee knowledge network Software that facilitates search of relevant knowledge within an organization. The software points an employee with a need for certain information or expertise to co-workers who might have such information or expertise.

encapsulation In an object oriented data model, the combined storage of both data and the procedures that manipulate them.

encryption The conversion of plaintext to an unreadable stream of characters, especially to prevent a party that intercepts telecommunicated messages from reading them. Special encryption software is used by the sending party to encrypt messages, and by the receiving party to decipher them.

enterprise application An application that fulfils a number of functions together, such as inventory planning, purchasing, payment and billing.

enterprise resource planning (ERP) system An information system that supports different activities for different departments, assisting executives with planning and running different interdependent functions.

entity Any object about which an organization chooses to collect data.

entity relationship diagram (ERD) One of several conventions for graphical rendition of the data elements involved in business processes and the logical relationships among the elements.

ergonomics The science of designing and modifying machines to better suit people's health and comfort.

Ethernet The design, introduced and named by Xerox, for the contention-based data communications protocol.

European Article Number (EAN) A European standard of product code, similar to UPC but containing more information.

expert system (ES) A computer program that mimics the decision process of a human expert in providing a solution to a problem. Current expert systems deal with problems and diagnostics in narrow domains. An ES consists of a knowledge base, an inference engine and a dialogue management module.

external data Data that are collected from a wide array of sources outside the organization, including mass communications media, specialized newsletters, government agencies and the Web.

external memory Any non-RAM memory, including internal and external hard disks, flash memory and optical discs.

extranet A network, part of which is the Internet, whose purpose is to facilitate communication and trade between an organization and its business partners.

feasibility studies A series of studies conducted to determine if a proposed information system can be built, and whether or not it will benefit the business;

the series includes technical, economic and operational feasibility studies.

field A data element in a record, describing one aspect of an entity or event. Referred to as an attribute in relational databases.

file A collection of related records, such as a customer file containing details of all customer names, billing addresses, delivery addresses, credit limits and so on.

File Transfer Protocol (FTP) Software that allows the transfer of files over communications lines.

firewall Hardware and software designed to control access by Internet surfers to an information system, and access to Internet sites by organizational users.

first mover A business that is first in its industry to adopt a technology or method.

fixed wireless A network of fixed transceivers to facilitate connection to the Internet. Requires line of sight between transceivers.

flash drive A storage device containing flash memory. Flash drives are used in numerous electronic devices and often are designed to connect to a computer through a USB port.

flash memory A memory chip that can be rewritten and can hold its content without electric power. Thumb drives, as well as ROM, are made of flash memory.

foreign key In a relational database: a field in a table that is a primary key in another table. Foreign keys allow association of data between the two files.

frame relay A high-speed packet switching protocol used on the Internet.

fulfilment Picking, packing and shipping after a customer places an order online.

general-purpose application software Programs that serve varied purposes, such as developing decision-making tools or creating documents; examples include spreadsheets and word processors.

geographic information system (GIS) Information system that exhibits information visually on a computer monitor with local, regional, national or international maps, so that the information can easily be related to locations or routes on the map. GISs are used, for example, in the planning of transportation and product distribution, or the examination of government resources distributed over an area.

Gigabit Ethernet A network protocol often used in local area networks (LANs) supporting up to 1 Gbps.

global information system Any information system that crosses national borders.

Global Trade Item Number (GTIN) A number that uniquely identifies products and services. The GTIN is a global standard succeeding the EAN and UPC.

glocalization The planning and designing of global websites so that they also cater to local needs and preferences.

groupware Any of several types of software that enable users of computers in remote locations to work together on the same project. The users can create and change documents and graphic designs on the same monitor.

hard disk A stack of several rigid aluminum platters coated with easily magnetized substance to record data. Usually installed in the same box that holds the CPU and other computer components, but may be portable.

hardware All physical components of a computer or computer system.

hijacking In the context of networks, when computers are remotely taken advantage of by people who are not authorized to do so by the lawful owner. The computer is 'hijacked' after a controlling application is surreptitiously installed on the computer's hard disk. Hijacked computers are exploited to participate in spamming or DDoS attacks.

honeypot A duplicate database on a server connected to the Internet to trace an intruder. The server is dedicated specifically for detection of intrusions and is not productive. The honeypot is there to be attacked in lieu of a productive server. The traces can be used to improve security measures and possibly catch the intruder.

honeytoken A bogus record in a database on a honeypot or productive server that is likely to draw an intruder's attention. If the intruder changes the record, the security officers know that the server has been attacked and can fix vulnerabilities.

host A computer that contains files and other resources that can be accessed by 'clients', computers linked to it via a network.

hot site A location where a client organization hit by a disaster can continue its vital operations. The structure – often underground – is equipped with hardware and software to support the client's employees.

hotspot An area, usually of 300-feet radius, in which a wireless device can connect to the Internet. The hotspot is created by installing an access point consisting of a device connected to the Internet on one end and to a router on the other end. All wireless devices link to the Internet through the router.

HTTPS The secure version of HTTP.

hub In networking, a device connecting several computers or other electronic devices.

Hypertext Markup Language (HTML) A programming language for web pages and web browsers.

Hypertext Transfer Protocol (HTTP) Software that allows browsers to log on to websites.

Hypertext Transfer Protocol Secure *See* HTTPS.

identity theft The criminal practice of obtaining enough personal information to pretend to be the victim, usually resulting in running up that person's credit cards or issuing new credit cards under that person's name.

IEEE 802.11 A standard for wireless communication. Several other IEEE 802.x standards have been approved by the Institute of Electrical and Electronics Engineers.

imaging The transformation of text and graphical documents into digitized files. The document can

be electronically retrieved and printed to reconstruct a copy of the original. Imaging has saved much space and expense in paper-intensive business areas.

impression In web advertising, the event of an ad displayed on a surfer's monitor.

information The product of processing data so that they can be used in a context by human beings.

information map The description of data and information flow within an organization.

information system (IS) A computer-based set of hardware, software and telecommunications components, supported by people and procedures, to process data and turn it into useful information.

information technology (IT) Refers to all technologies that collectively facilitate construction and maintenance of information systems.

inheritance The ability in object-oriented structures to create a new object automatically by replicating all or some of the characteristics of a previously developed object.

input Raw data entered into a computer for processing.

input device A tool, such as a keyboard or voice recognition system, used to enter data into an information system.

instant messaging (IM) The capability for several online computer users to share messages in real time; also called chatting online.

internal data Data collected within an organization, typically by transaction-processing systems, for example the number of sales per month, the value of outstanding credit owed to the organization.

internal memory The memory circuitry inside the computer, communicating directly with the CPU. Consists of RAM and ROM.

Internet Protocol (IP) number A unique number assigned to a server or another device that is connected to the Internet for identification purposes. Consists of 32 bits.

Internet service provider (ISP) An individual or organization that provides Internet connection, and sometimes other related services, to subscribers.

intranet A network using web browsing software that serves employees within an organization.

join table In relational database manipulation, a table created by linking – that is, joining – data from multiple tables.

just-in-time (JIT) The manufacturing strategy in which suppliers ship parts directly to assembly lines, saving the cost of warehousing raw materials, parts and subassemblies.

key A field in a database table whose values identify records either for display or for processing. Typical keys are part number (in an inventory file) and National Insurance number (in a human resources file).

keystroke logging Automatically recording the keystrokes of a computer user. The logging is done by special software, usually surreptitiously with the intention of later using secret access codes.

knowledge base The collection of facts and the relationships among them that mimic the decision-making process in an expert's mind and constitute a major component of an expert system.

knowledge management The combination of activities involved in gathering, sharing, analysing and disseminating knowledge to improve an organization's performance.

late mover An organization that adopts a technology or method after competitors have adopted it.

leased lines Point-to-point dedicated digital circuits provided by telephone companies.

load balancing The transfer of visitor enquiries from a busy server to a less busy server.

local area network (LAN) A computer network confined to a building or a group of adjacent buildings, as opposed to a wide area network.

logic bomb A destructive computer program that is inactive until it is triggered by an event taking place in the computer, such as the deletion of a certain record from a file. When the event is a particular time, the logic bomb is referred to as a time bomb.

machine cycle The steps that the CPU follows repeatedly: fetch an instruction, decode the instruction, execute the instruction and store the result.

machine language Binary programming language that is specific to a computer. A computer can execute a program only after the program's source code is translated to object code expressed in the computer's machine language.

magnetic disk A disk or set of disks sharing a spindle, coated with an easily magnetized substance to record data in the form of tiny magnetic fields.

magnetic-ink character recognition (MICR) A technology that allows a special electronic device to read data printed with magnetic ink. The data are later processed by a computer. MICR is widely used in banking. The bank code, account number and the amount of a cheque are printed in magnetic ink on the bottom of cheques.

magnetic tape Coated polyester tape used to store computer data; similar to tape recorder or VCR tape.

mainframe computer A computer larger than a midrange computer but smaller than a supercomputer.

management by exception A method of management whereby managers review only exceptions from expected results that are of a certain size or type, assuming that smaller deviations are immaterial.

management information system (MIS) A computer-based information system used for planning, control, decision-making or problem-solving.

manufacturing resource planning (MRP II) The combination of MRP with other manufacturing-related activities to plan the entire manufacturing process, not just inventory.

many-to-many relationship In databases, a relationship between two tables whereby every record in a table can be associated with several records in the other table.

master production schedule (MPS) The component of an MRP II system that specifies production capacity to meet customer demands and maintain inventories.

material requirements planning (MRP) Inventory control that includes a calculation of future need.

m-commerce Mobile commerce, enabled by advances in technology for mobile communications devices.

metadata Information about the data in a database, often called data dictionary.

microcomputer The smallest type of computer; includes desktop, laptop and handheld computers.

microprocessor An electronic chip that contains the circuitry of either a CPU or a processor with a dedicated and limited purpose, for example a communications processor.

microwaves Short (high frequency) radio waves. Used in telecommunications to carry digital signals.

midrange computer A computer larger than a microcomputer but smaller than a mainframe.

MIPS Millions of instructions per second; an inaccurate measure of computer speed.

mirror An Internet server that holds the same software and data as another server, which may be located thousands of miles away.

mission-critical applications Applications without which a business cannot conduct its operations.

mobile broadband wireless access (MBWA) IEEE 801.20 standard to support continuous wireless connection while moving in vehicles.

modem (modulator/demodulator) A communications device that transforms digital signals to analogue telephone signals, and vice versa, for data communications over voice telephone lines. The term is widely used for all devices that connect a computer to a wide area network, such as the Internet, even if the device does not modulate or demodulate.

modulation The modification of a digital signal (from a computer) into an analogue signal (for a phone line to transmit).

mouse An input device that controls an on-screen pointer to facilitate the point-and-click approach to executing different operations.

multidimensional database *See* dimensional database.

multiprocessing The mode in which a computer uses more than one processing unit simultaneously to process data.

network A combination of a communications device and a computer or several computers, or two or more computers, so that the various devices can send and receive text or audiovisual information to each other.

network administrator The individual who is responsible for the acquisition, implementation, management, maintenance and troubleshooting of computer networks throughout the organization.

network interface card (NIC) Circuitry embedded or installed in a computer to support proper linking of the computer to a network.

node A device connected to at least one other device on a network.

notebook computer A computer as small as a book, yet with computing power similar to that of a desktop microcomputer.

object-oriented database model A database, in which data are part of an object, that is processed using object-oriented programs.

object-oriented programming (OOP) language A programming language that combines data and the procedures that process the data into a single unit called an 'object', which can be invoked from different programs.

OC (optical carrier) A family of several very high-speed technologies using optical fibres. Usually, the standard is marked as OC-3, OC-12, OC-48, etc.

offshoring Outsourcing work to employees in other countries.

one-to-many relationship In a database, a relationship between two tables such that each record in the one table can be associated with several records in the other table, but each record in the other table can be associated with only one record in the first table.

online analytical processing (OLAP) A type of application that operates on data stored in databases and data warehouses to produce summary tables with multiple combinations of dimensions. An OLAP server is connected to the database or data warehouse server at one end and to the user's computer at the other.

open source software Software whose source code can be accessed by the general public.

open system A system that interfaces and interacts with other systems.

operating system (OS) System software that supports the running of applications developed to utilize its features and controls peripheral equipment.

optical disc A disc on which data are recorded by treating the disc surface so it reflects light in different ways; includes CD and DVD.

organizational culture An umbrella term referring to the general tone of a corporate environment.

output The result of processing data by the computer; usually, information.

output device A device, usually a monitor or printer, that delivers information from a computer to a person.

outsourcing Buying the services of an information service firm that undertakes some or all of the organization's IS operations.

packaged software General-purpose applications that come ready to install from a magnetic disk, CD, or file downloaded from a vendor's website.

packet Several bytes that make up a part of a telecommunicated message.

packet switching A telecommunications method whereby messages are broken into groups of fixed amounts of bytes, and each group (packet) is transmitted through the shortest route available. The packets are assembled at the destination into the original message.

PAN (personal area network) A network of devices typically within a small radius that enables a user to use two or more devices wirelessly, such as wireless keyboard and mouse.

parallel conversion Using an old information system along with a new system for a predetermined period of time before relying only on the new one.

parallel processing The capacity for several CPUs in one computer to process different data at the same time.

peer-to-peer (P2P) file sharing Software applications that enable two Internet users to send and receive to each other. The technology is highly objectionable to organizations that sell copyrighted materials because the software promotes violation of copyrights.

peer-to-peer LAN A local area network (LAN) in which no central device controls communications.

personal digital assistant (PDA) A small handheld computer. Many PDAs require the use of a special stylus to click displayed items and to enter handwritten information that is recognized by the computer. An increasing number of PDAs also serve as mobile phones, music players and GPS devices.

phased conversion Implementing a new information system one module at a time.

phishing The criminal practice of luring Internet users to provide their personal information via email or the Web. Phishing almost always results in fraud or identity theft.

piloting A trial conversion in which a new information system is introduced in one business unit before introducing it in others.

pixel The smallest picture element addressable on a monitor, short for 'picture element'. In an LCD monitor, it is a triad of three transistors controlling the colours of red, green and blue that can be switched on and off and kept on with varying amounts of electricity to produce various colours and hues. In a CRT monitor, the triad is made of phosphorous dots that are excited by an electron gun.

plaintext An original message, before encryption.

podcasting The practice of posting sound files at a website for automating downloading and playing by subscribers.

port A socket on a computer to which external devices, such as printers, keyboards and scanners, can be connected. Also, software that enables direct communication of certain applications with the Internet.

primary key In a file, a field that holds values that are unique to each record. Only a primary key can be used to uniquely identify and retrieve a record.

process Any manipulation of data, usually with the goal of producing information.

productivity Efficiency, when the input is labour. The fewer labour hours needed to perform a job, the greater the productivity.

programming The process of writing software.

programming languages Sets of syntax for abbreviated forms of instructions that special programs can translate into machine language so a computer can understand the instructions.

proprietary software Software owned by an individual or organization. The owner can control licensing and usage terms of the software. Nonproprietary software is not owned by anyone and is free for use.

protocol A standard set of rules that governs telecommunication between two communications devices or in a network.

prototyping An approach to the development of information systems in which several analysis steps are skipped, to accelerate the development process. A 'quick and dirty' model is developed and continually improved until the prospective users are satisfied. Prototyping has evolved into agile development methods.

proxy server A computer that serves as an intermediary between two servers on the Internet, often for the purpose of security or filtering out certain information.

public-key encryption Encryption technology in which the recipient's public key is used to encrypt and the recipient's private key is used to decrypt.

pure-play A business operating with clients only via the Web, as opposed to operating via stores or other physical facilities.

radio frequency identification (RFID) Technology that enables identification of an object (such as product, vehicle, or living creature) by receiving a radio signal from a tag attached to the object.

radio frequency interference (RFI) The unwanted reception of radio signals that occurs when using metal communication lines. Optical fibres are not susceptible to RFI.

RAID (Redundant Array of Independent Disks) A set of magnetic disk packs maintained for backup purposes. Sometimes RAIDs are used for storing large databases.

RAM (random access memory) The major part of a computer's internal memory. RAM is volatile; that is, software is held in it temporarily and disappears when the machine is unplugged or turned off, or it may disappear when operations are interrupted or new software is installed or activated. RAM is made of microchips containing transistors. Many computers have free sockets that allow the expansion of RAM.

rapid prototyping Using software and special output devices to create prototypes to test design in three dimensions.

reach percentage The percentage of web users who have visited a site in the past month, or the ratio of visitors to the total web population.

record A set of standard field types. All the fields of a record contain data about a certain entity or event.

reengineering The process by which an organization takes a fresh look at a business process and reorganizes it to attain efficiency. Almost always, reengineering includes the integration of a new or improved information system.

relational database model A general structure of database in which records are organized in tables (relations) and the relationships among tables are maintained through foreign keys.

relational operation An operation that creates a temporary table that is a subset of the original table or tables in a relational database.

repeater A device that strengthens signals and then sends them on their next leg towards their next destination.

request for information (RFI) A request to vendors for general, somewhat informal, information about their products.

request for proposal (RFP) A document specifying all the system requirements and soliciting a proposal from vendors who might want to bid on a project or service.

resolution The degree to which the image on a computer monitor is sharp. Higher resolution means a sharper image. Resolution depends on the number of pixels on the screen and the dot pitch.

return on investment (ROI) A financial calculation of the difference between the stream of benefits and the stream of costs over the life of an information system; often used as a general term to indicate that an investment in an information system is recouped or smaller than the cost the system saves or the increase in revenue it brings about.

reverse auction (name-your-own-price auction) An online auction in which participants post the price they want to pay for a good or service, and retailers compete to make the sale; also called a name-your-price auction.

ROM (read-only memory) The minor part of a computer's internal memory. ROM is loaded by the manufacturer with software that cannot be changed. Usually, ROM holds very basic system software, but sometimes also applications. Like RAM, ROM consists of microchips containing transistors.

router A network hub, wired or wireless, that ensures proper routing of messages within a network such as a LAN and between each device on that network and another network, such as the Internet.

RSS Really Simple Syndication, a type of application using XML for aggregating updates to blogs and news posted at websites.

Safe Harbor A list of US corporations that have agreed to conform to European Union data protection laws with regard to EU citizens. The arrangement enables the corporations to continue to do business with European companies.

scalability The ability to adapt applications as business needs grow.

schema The structure of a database, detailing the names and types of fields in each set of records, and the relationships among sets of records.

search advertising Placing ads at search engine websites.

sequential storage A file organization for sequential record entry and retrieval. The records are organized as a list that follows a logical order, such as ascending order of ID numbers, or descending order of part numbers. To retrieve a record, the application must start the search at the first record and retrieve every record, sequentially, until the desired record is encountered.

server A computer connected to several less powerful computers that can utilize its databases and applications.

service-level agreement A document that lists all the types of services expected of an outsourcing vendor as well as the metrics that will be used to measure the degree to which the vendor has met the level of promised services. Usually, the client makes the list.

shared hosting An arrangement by which the websites of several clients are maintained by the hosting vendor on the same server.

social engineering Deceptive methods that hackers use to entice people to release confidential information such as access codes and passwords. Often, the crooks misrepresent themselves as technicians who need one's password for fixing a problem in a network.

software Sets of instructions that control the operations of a computer.

software as a service (SaaS) An alternative to developing or licensing software, which enables the client to hire the software through communication lines, usually over the Internet, from an application service provider (ASP).

solid state disk (SSD) Flash memory that serves as external storage medium as if it were a hard disk.

source code An application's code written in the original high-level programming language.

source data input device A device that enables data entry directly from a document without need for human keying. Such devices include bar-code readers and optical character readers.

speech recognition The process of translating human speech into computer-readable data and instructions.

spyware A small application stored surreptitiously by a website on the hard disk of a visitor's computer. The application tracks activities of the user, including visits to websites, and transmits the information to the operator's server.

SSO (single sign-on) Enabling employees to access several information systems by using a single password.

static IP number An Internet Protocol number permanently associated with a device.

storage The operation of storing data and information in an information system.

storage service provider (SSP) A firm that rents storage space for software through an Internet link.

strategic information system Any information system that gives its owner a competitive advantage.

Structured Query Language (SQL) The data definition and manipulation language of choice for many developers of relational database management systems.

stylus A pen-like marking device used to enter commands and data on a computer screen.

subsystem A component of a larger system.

suite A group of general software applications that are often used in the same environment. The strengths of the different applications can be used to build a single powerful document. Current suites are usually a combination of a spreadsheet, a word processor and a database management system.

supercomputer The most powerful class of computers, used by large organizations, research institutions and universities for complex scientific computations and the manipulation of very large databases.

supply chain The activities performed from the purchase of raw material to the shipping of manufactured goods and collecting for their sale.

supply chain management (SCM) The coordination of purchasing, manufacturing, shipping and billing operations, often supported by an enterprise resource planning system.

support The maintenance and provision for user help on an information system.

switch In networking, a device that is able to direct communications to certain devices on the network. Compare with a hub which broadcasts to all connected devices.

switching costs Expenses that are incurred when a customer stops buying a product or service from one business and starts buying it from another.

symmetric (secret or private key) encryption Encryption technology in which both the sender and recipient of a message use the same key for encryption and decryption.

synergy From Greek 'to work together'. The attainment of output, when two factors work together, that is greater or better than the sum of their products when they work separately.

system An array of components that work together to achieve a common goal or multiple goals.

system requirements The functions that an information system is expected to fulfil and the features through which it will perform its tasks.

system software Software that executes routine tasks. System software includes operating systems, language translators and communications software. Also called 'support software'.

systems analysis The early steps in the systems development process, to define the requirements of the proposed system and determine its feasibility.

systems analyst An IT professional who analyses business problems and recommends technological solutions.

systems design The evaluation of alternative solutions to a business problem and the specification of hardware, software and communications technology for the selection solution.

systems development life cycle (SDLC) The oldest method of developing an information system, consisting of several phases of analysis and design, which must be followed sequentially.

systems integration Interfacing several information systems.

table A set of related records in a relational database.

tablet computer A full-power personal computer in the form of a thick writing tablet.

targeted marketing Promoting products and services to the people who are most likely to purchase them.

TCP/IP (transmission control protocol/Internet protocol) A packet-switching protocol that is actually a set of related protocols that can guarantee packets are delivered in the correct order and can handle differences in transmission and reception rates.

technology convergence The combining of several technologies into a single device, such as mobile phone, digital camera and web browser.

telecommunications Communications over a long distance, as opposed to communication within a computer, or between adjacent hardware pieces.

throughput A general measure of the rate of computer output.

time to market The time between generating an idea for a product and completing a prototype that can be mass-manufactured; also called engineering lead time.

touch screen A computer monitor that serves both as input and output device. The user touches the areas of a certain menu item to select options, and the screen senses the selection at the point of the touch.

trackball A device similar to a mouse, used for clicking, locking and dragging displayed information; in this case, the ball moves within the device rather than over a surface.

trackpad A device used for clicking, locking and dragging displayed information; the cursor is controlled by moving one's finger along a touch-sensitive pad.

transaction A business event. In an IS context, the record of a business event.

transaction processing system (TPS) Any system that records transactions.

transmission rate The speed at which data are communicated over a communications channel.

Transport Layer Security (TLS) The successor of Secure Sockets Layer (SSL), the software in the web browser responsible for secure communication.

Trojan horse A malicious piece of software hidden with a benign and legitimate software that one downloads or agrees to otherwise accept and install on one's computer. The Trojan horse then causes damage.

twisted pair cable Traditional telephone wires, twisted in pairs to reduce electromagnetic interference.

Unicode An international standard to enable the storage and display of characters of a large variety of languages – such as Asian, Arabic and Hebrew – on computers.

Unified Modelling Language (UML) An extensive standard for graphically representing elements of programming, specifically accommodating programming in object-oriented languages and web technologies.

Uniform Resource Locator (URL) The address of a website. Always starts with *http://* but does not have to contain *www*.

uninterruptible power supply (UPS) A device that provides an alternative power supply as soon as a power network fails.

Universal Product Code (UPC) A code usually expressed as a number and series of variable width bars that uniquely identifies the product by scanning.

universal serial bus (USB) A ubiquitous socket that enables the connection of numerous devices to computers.

uptime The percentage of time (so much time per year) that an information system is in full operation.

USB drive Any storage device that connects to a computer through a USB socket, but especially flash drives.

user application development Development of corporate applications by employees rather than IT professionals.

utilities Programs that provide help in routine user operations.

value-added network (VAN) A telecommunications network owned and managed by a vendor that charges clients periodic fees for network management services.

videoconferencing A telecommunication system that allows people who are in different locations to meet via transmitted images and speech.

virtual private network (VPN) Hardware and software installed to ensure that a network path that includes the Internet enables employees of the same organization or employees of business partners to communicate confidentially. The hardware and software create an impression that the entire communication path is private.

virtual private server Part of a server that serves as an Internet server for a client of a web hosting company, while other clients share the same physical server.

virus Destructive software that propagates and is activated by unwary users; a virus usually damages applications and data files or disrupts communications.

visual programming language A programming language that provides icons, colours and other visual elements from which the programmer can choose to speed up software development.

VoIP (Voice over Internet Protocol) Technologies that enable voice communication by utilizing the Internet instead of the telephone network.

web hosting The business of organizations that host, maintain and often help design websites for clients.

Webmaster The person who is in charge of constructing and maintaining the organization's website.

wide area network (WAN) A network of computers and other communications devices that extends over a large area, possibly comprising national territories. Example: the Internet.

Wi-Fi A name given to the IEEE 802.11 standards of wireless communication. Wi-Fi technologies are used in hotspots and in home and office networks. Wi-Fi is usually effective for a radius of 300 feet.

WiMAX The IEEE 802.16 standard for wireless networking with a range of up to 50 km (31 miles). (WiMAX stands for the organization that promotes that standard, Worldwide Interoperability for Microwave Access.)

wireless LAN (WLAN) A local area network that uses electromagnetic waves (radio or infrared light) as the medium of communication. In recent years almost all WLANs have been established using Wi-Fi.

workstation A powerful microcomputer providing high-speed processing and high-resolution graphics. Used primarily for scientific and engineering assignments.

worm A rogue program that spreads in a computer network.

XHTML A standard that combines HTML standards and XML standards.

XML (Extensible Markup Language) A programming language that tags data elements in order to indicate what the data mean, especially in web pages.