
GLOSSARY OF TECHNICAL TERMS

“ALU”	Acronym for arithmetic logic unit, a component of a microprocessor chip used for arithmetic, comparative, and logical functions
“ASIC”	Acronym for application specific integrated circuit and also, the name of one of the Company’s embedded system products
“Barrel Shifter”	An array of transistors, where the number of rows equals the word length of the data, and the number of columns equals the maximum shift width. The control wires are routed diagonally through the array. A major advantage of this shifter is that the signal has to pass through one transmission gate at most. In other words, the propagation delay is theoretically constant and independent of the shift value or shifter size
“CAD”	Acronym for computer-aided design, a system of programs and computers used in the design of engineering, architectural and scientific models ranging from simple tools to building, aircraft, integrated circuits and molecules
“CASE”	Acronym for computer-aided software engineering
“CMOS”	Acronym for complementary metal-oxide semiconductor, a semiconductor technology in which pairs of metal-oxide semiconductor field effect transistors (MOSFETs), the N-type and the other P-type, are integrated on a single silicon chip. Generally used for RAM and switching applications, these devices have very high speed and extremely low power consumption
“COS”	Acronym for chip operating system. COS is a system incorporated in smart cards and its principal functions are to control data communications between the smart card and outside devices, to manage data storage in the smart card and to carry out certain instructions

GLOSSARY OF TECHNICAL TERMS

“CPU”	Acronym for central processing unit, the computational and control unit of a computer. The central processing unit is the device that interprets and executes instructions. Mainframes and early minicomputers contained circuit boards full of integrated circuits that implemented the central processing unit. Single-chip central processing units, called <i>microprocessors</i> , made possible personal computers and workstations. The central processing unit – or microprocessor, in the case of a microcomputer – has the ability to fetch, decode, execute instructions and to transfer information to and from other resources over the computer’s main data-transfer path, the bus. By definition, the central processing unit is the chip that functions as the “brain” of a computer. In some instances, however, the term encompasses both the processor and the computer’s memory or, even more broadly, the main computer console (as opposed to peripheral equipment)
“D/A”	Acronym for conversion of digital signal and analog signal
“digital signature”	A personal authentication method based on encryption and secret authorisation codes used for “signing” electronic documents
“e-mail”	Electronic mail
“embedded systems”	Embedded systems encompass a variety of hardware and software components which perform specific functions in the host systems, for example, satellites, washing machines, hand-held telephones and automobiles. Embedded systems have become increasingly digital with a non-digital periphery (analog power) and therefore, both hardware and software co-design are relevant. Although the design of embedded systems has been used in industrial practice for decades, the systematic design of such systems has recently gained increased attention
“Encryption”	Codification of data by rearranging sequences of data blocks through specified methods so that the rearranged data can only be restored by a special decryption method

GLOSSARY OF TECHNICAL TERMS

“EPROM”	Acronym for erasable and programmable read-only memory. A non-volatile memory chip that is programmed after it is manufactured. EPROMs can be reprogrammed by removing the protective cover from the top of the chip and exposing the chip to ultraviolet light. Though EPROMs are more expensive than PROM chips, they can be more cost-effective if many changes are required
“ephemeris”	Astrological diary which lists all planet placements
“feature parameter”	Parameters used to describe the characteristics of the studied objects
“Firewall”	Typically an application intended to protect a user’s or an organisation’s network against unauthorised external access through access control policies. A firewall can prevent computers external to the user’s or an organisation’s network from communicating directly with the network of the user’s or an organisation’s computers
“FTP”	Acronym for File Transfer Protocol, the protocol used for uploading files to, and downloading files from, remote computer systems on a TCP/IP network
“gate terminal N channel technology”	A technology to develop N-type metallic oxidised semi-conductor transistor when going through conductive channel area based on P-type silicon substrate and the application of silicon as a gate terminal
“GIS”	Acronym for geographic information system
“GMSK”	Acronym for Ganssion Minimum Shift Keying, a modulation scheme in which the phase of the carrier is instantaneously varied by the “modulating” signal
“GPS”	Acronym for global positioning system, a new generation of satellite navigation system developed by the US navy, army and air force
“GPS Application System”	One of the Company’s embedded system products that provides security control and monitoring of vehicles

GLOSSARY OF TECHNICAL TERMS

“HTTP”	Acronym for Hypertext Transfer Protocol, the client/server protocol used to access information on the World Wide Web
“IC”	Acronym for integrated circuit
“ICCAD”	Acronym for integrated circuit computer-aided design
“I/O bus”	Acronym for input/output bus, a hardware path used inside a computer for transferring information to and from the processor and various input and output devices
“IP”	Acronym for intellectual property
“IP Core”	IC building block designed by a developer who owns the IP
“IT”	Acronym for information technology
“Internet”	International network that links together servers and allows data to be transferred between each server using the TCP/IP protocols. Individual user can use a modem to connect his computer to the server and have access to the world network
“Intranet”	A network designed for information processing within a company or organization. Its uses include such services as document distribution, software distribution, access to databases, and training. An intranet is so called because it usually employs applications associated with the Internet, such as web pages, web browsers, FTP sites, e-mail, newsgroups, and mailing lists, and which are accessible only to those within the company or organization
“ISDN”	Acronym for Integrated Services Digital Network, a worldwide digital communications network evolving from existing telephone services. The goal of ISDN is to replace the current telephone network, which requires digital-to-analog conversions, with facilities totally devoted to digital switching and transmission, yet advanced enough to replace traditionally analog forms of data, ranging from voice to computer transmissions, music and video

GLOSSARY OF TECHNICAL TERMS

“Local area network” or “LAN”	A group of computers and other devices dispersed over a relatively limited area and connected by a communications link that enables any device to interact with any other on the network. LANs commonly include computers and shared resources such as laser printers and large hard disks. The devices on a LAN are known as nodes, and the nodes are connected by cables through which messages are transmitted
“Network Security Products”	One of the Company’s embedded system products that provides security control of information in external and internal network
“PC”	Acronym for personal computer
“PCB”	Acronym for printed circuit board, a flat board made of non-conductive material, such as plastic or fiberglass, on which chips and other electronic components are mounted, usually in predrilled holes designed to hold them. The component holes are connected electrically by predefined conductive metal pathways that are printed on the surface of the board. The metal leads protruding from the electronic components are soldered to the conductive metal pathways to form a connection
“POS”	Acronym for point of sale, the place in a store at which goods are paid for. Usually, POS refers to computerized transaction systems, such as those in use at supermarkets, using scanners for reading tags and bar codes, electronic cash registers, and other special devices to record purchases at this point
“PROM”	Acronym for programmable read-only memory, a type of read-only memory (ROM) that allows data to be written into the device with hardware called a PROM programmer. After a PROM has been programmed, it is dedicated to that data, and it cannot be reprogrammed

GLOSSARY OF TECHNICAL TERMS

“RAM”	Acronym for random access memory, semiconductor-based memory that can be read and written by the central processing unit (CPU) or other hardware devices. The storage locations can be accessed in any order. Note that the various types of ROM memory are capable of random access, but cannot be written to. The term RAM, however, is generally understood to refer to volatile memory that can be written to as well as read
“ROM”	Acronym for read-only memory
“RISC”	Acronym for reduced instruction set computer, a type of microprocessor design that focuses on rapid and efficient processing of a relatively small set of simple instructions that comprises most of the instructions a computer decodes and executes. RISC architecture optimizes each of these instructions so that it can be carried out very rapidly – usually within a single clock cycle
“Router”	An intermediary device on a communications network that expedites message delivery. On a single network linking many computers, a router receives transmitted messages and forwards them to their correct destinations over the most efficient available route. On an interconnected set of LANs using the same communications protocols, a router serves the function of acting as a link between LANs, enabling messages to be sent from one to another
“Security IC(s)”	An ASIC for specific security purposes
“SMTP”	Acronym for Simple Mail Transfer Protocol, a TCP/IP protocol for sending messages from one computer to another on a network. This protocol is used on the Internet to route e-mail
“Smart Card Application System”	One of the Company’s embedded system products that provides access control and point of sale, etc.
“TCP/IP”	Acronym for Transmission Control Protocol/Internet Protocol, a protocol developed by the US Department of Defense for communications between computers

GLOSSARY OF TECHNICAL TERMS

“VERILOG”	A hardware description language used in the design of digital electronic system. It allows the designers for the implementation of multi-level logic design and the provision of timing analysis and logic synthesis during system simulation and verification
“VHDL”	Acronym for very-high-speed integrated circuit (VHSIC) hardware-description language
“WFAS”	Acronym for wireless fire alarm system, one of the Company’s embedded system products that provides reliable protection against fire hazards
“World Wide Web” or “www”	The total set of interlinked hypertext documents residing on HTTP servers all around the world