

**SWP 26/90 A SELECTED GLOSSARY OF ELECTRONIC DATA  
INTERCHANGE AND RELATED TERMS**

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# ELECTRONIC DATA INTERCHANGE: THE LONGER TERM EFFECTS ON INTERNATIONAL TRADE

## Introduction:

This series of working papers has been prepared as part of the early work in a new programme of research, based at the Cranfield School of Management. The topic for research is the "Longer term effects of Electronic Data Interchange" on business, in the United Kingdom, Europe, and elsewhere in the world.

## Contents:

Seven working papers are available, as follows:

Topic	Date
Glossary of EDI terms and acronyms	18th July 1989
EDI: Technical Opportunity or Business necessity?	18th July 1989
Survey of EDI users and service providers in the UK	October 1989
An update report from the "EDI '89" conference in London	6th November 1990
EDI and advanced information processing - the way ahead	15th September 1989
EDI Standards and the Single European Market	11th September 1989
The effects of EDI on the financial sector	18th December 1989

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**BULLETIN BOARD**

A remote facility that can be accessed over the telephone network which allows informal communication between users. Usually accessed by the use of a PERSONAL COMPUTER with a MODEM.

**CADDIA**

Co-operation in the Automation of Data and Documentation for Imports/exports and Agriculture (an early EEC programme).

**CAM**

Computer aided manufacture. The process of using computers to assist with the assembly and testing of manufactured products.

**CCC**

Customs Cooperation Council (based in Brussels)

**CEFIC**

Federation of European Chemical Industries - an early trans-national project for EDI in Europe.

**CEN/CENELEC**

European standardisation bodies.

**CEPT**

European Conference of Post, Telephone and Telegraph authorities

**CHIEF**

Customs Handling of Import and Export Freight - successor to DEPS and part of the larger Customs 88 project.

**CODE (1)**

A way of combining BITS (binary integers) to make up representations of alphabetic, numeric or other characters.

**CODE (2)**

An element of a computer PROGRAM, either seen as a COMMAND or a part of a command. Hence the term program coding.

**COMPATIBILITY**

The ability of different computers and systems to co-operate. Takes different forms (eg data compatibility or program compatibility), and needs careful definition when trying to achieve compatibility in practice.

**CONFERENCING**

An emerging use of information technology. Either video conferencing (where participants can see each other) or electronic conferencing (an advanced form of electronic mail allowing sharing of text).

**CONFORMANCE TESTING**

A process of testing a product or service against a published standard. It is axiomatic that a standard provides a basis for conformance testing. If it does not then it is a Guideline or a Code of Practice, not a standard.



**ACP-80**

Air Cargo Processing (1980) - a system for dealing with air cargo processing and customs procedures.

**ANA**

Article Numbering Association - one of the foremost UK agencies promoting the use of bar codes and EDI.

**APPLICATION LEVEL PROTOCOL**

An agreed procedure for the exchange of data at the application level (rather than at the lower levels of the communications network or the physical communications links).

**ARCHITECTURE**

A loosely defined term to indicate the overall understanding of the context for information systems, particularly the shared parts (eg corporate DATABASE and TELECOMMUNICATIONS infrastructure).

**ASCII**

American Standard Code for Information Interchange. The most common binary code (using 7 BITS) for the representation of data within the computer. Internationally it should be known as the ISO 7-bit standard but it is usually referred to as ASCII.

**ASYNCHRONOUS**

Not in time. Usually used to describe the time-independent nature of two co-operating computer programs or hardware processes - particularly in communications where two points are connected and exchange data without having to synchronise.

**ATM**

Automatic teller machine. A device provided by banks for issuing cash against identity cards.

**BACS**

Bankers Automated Clearing Service (based in north London). One of the first examples of the high-volume exchange of electronic data rather than ink-and-paper data.

**BANDWIDTH**

The capacity of a communications link to carry signals, whether image, data or voice. Usually expressed as HERTZ (KHz, Mhz, etc).

**BATCH PROCESSING**

A term indicating that work is collected into batches, usually executed more efficiently than TRANSACTION PROCESSING.

**BCS**

The British Computer Society. Primary UK professional body for academics and others.

**BS**

Prefix for a reference to British Standards - eg BS6488.

**BSI**

British Standards Institute.

**BT**

British Telecom - the national telecommunications carrier in the United Kingdom.



**DISTRIBUTED**

Not in one place. Usually referring to HARDWARE, but also to data in the case of a distributed DATABASE.

**DTI (1)**

The United Kingdom Department of Trade and Industry - deeply involved in promulgating EDI ideas and a source of funding for standardisation work and developmental work.

**DTI (2)**

Direct Trader Input - a facility for trading companies to directly input data to the UK Customs and Excise authority.

**EAN**

The International Article Numbering Association.

**ECE**

Economic Commission for Europe. A United Nations body based in Geneva which sponsors the EDIFACT initiative.

**ECONF**

Abbreviation for electronic CONFERENCE (or conferencing) - an advanced form of electronic mail (EMAIL) allowing users to share text by providing storage and text management under topic headings.

**EDI**

Electronic Data Interchange. A means of transferring data between co-operating enterprises without having to print it out on one computer and key it into another. Requires agreement about standards (proprietary or otherwise).

**EDICON**

Electronic Data Interchange for the Construction Industry

**EDICT**

A proprietary EDI service offered by Istel (a software and services company based in Birmingham, England).

**EDIFACT**

EDI for Administration, Commerce and Transport - an international EDI standards initiative sponsored by ECE and supported by IDEA.

**EDIFICE**

EDI for the UK and European Electronics Industry.

**EDP**

Electronic Data Processing.

**EFT**

Electronic Funds Transfer. A way in which financial information about transactions can be exchanged without movement of any other paper-based information or actual cash.

**EFT-POS**

Electronic Funds Transfer at the Point of Sale. Referring usually to the direct charging of retail transactions by customers holding identification cards of one kind or another.



**COST306**

A project sponsored by the UN and EEC to support freight forwarding with an electronic messaging system.

**CSA**

Computing Services Association. The trade body for software and systems houses in the UK. They circulate Invitations to Tender to their members regularly, thereby providing a cheap and effective way of inviting bids from the software industry.

**CUA**

Computer Users Association. For example, IBM CUA, ICL CUA, etc.

**CUSTOMS 88**

A programme of new systems managed by the UK Customs and Excise authorities incorporating CHIEF, HS, SAD and TARIC.

**DATA**

The codes, characters, numbers and other symbols which convey information (when interpreted).

**DATA DICTIONARY**

A data dictionary is a place where information is stored about the data that is inherent in a system, and also sometimes database definitions (DDL) that describe the physical DATABASE that contains the data.

**DATABASE**

A well-structured storage area for multiple related data structures (eg customer data, sales orders and product information, all related within the same area of storage); cf FILE.

**DEPS**

Departmental Entry Process System. An obsolete UK Customs and Excise system being replaced by CHIEF.

**DETERMINISTIC**

(Of a procedure) Always able to produce a consistent result given a certain set of conditions (eg the procedure to establish a trial balance); cf HEURISTIC.

**DIAL**

Data Interchange at the Application Level - a standard for EDI originated by BSI but now superceded by UNECE/TDI.

**DIALOG**

(Prop) An online real-time service offering a wide selection of databases which contain business, medical, sociological and other data (mostly references to the relevant literature).

**DIALOGUE**

A term used to refer to the interaction between a system and its user; inclusive of the individual steps that might be taken and the rules that determine the sequence or choice of steps, as well as the help messages and other control information that passes across the MAN-MACHINE INTERFACE.

**DISH**

Data Interchange for Shipping - a project for international EDI based on extended Tradanet facilities and involving a number of parties.



**FRONT-END**

The part of a mainframe computer which interfaces with (and manages data transfer over) the communications lines (telephone or other); cf BACK-END.

**FTA**

The United Kingdom Freight Transport Association - involved in EDI for the freight forwarding industry.

**GATEWAY**

An interface between two wide area communications systems, for example out of PRESTEL into TELECOM GOLD.

**GEISCO**

A United States-based company (part of General Electric) providing proprietary EDI services and products.

**HEURISTIC**

(Adjective, of a process) By finding out, but not producing a determinable result (eg oil exploration); cf DETERMINISTIC.

**HIERARCHY**

A graphic arrangement with high-level COMPONENTS or parts being divided down into sub-components at a number of inferior levels.

**HOST**

A term used to describe the master computer (out of two or more) which provides the control over a link.

**ICC**

International Chamber of Commerce

**IDEA**

International Data Exchange Association - an international and inter-industry association for EDI, based in Belgium.

**IEE**

The Institution of Electrical Engineers. The UK professional body for electrical engineers which has taken a particular interest in computing and computing standards.

**IEEE**

The Institute of Electronic and Electrical Engineers. The US equivalent to the IEE. (Usually pronounced "eye-triple-ee").

**IMPORT (in the context of computers)**

The entry of data into a system directly from another. See EXPORT.

**IN-HOUSE (1)**

The opposite to DISTRIBUTED.

**IN-HOUSE (2)**

Referring to systems development within the using organisation, as distinct from development contracted out to a software house.



**ELECTRONIC DATA INTERCHANGE**

See EDI. The exchange of data in electronic form (eg orders and invoices), according to agreed local or international standards.

**EMAIL**

Jargon for electronic mail, which communicates messages from sender to receiver entirely by electronic means using public or private telephone or data links.

**END-USER**

A phrase which is used to distinguish the person who will use the system at the end of development, as distinct from the development staff who might be involved (and also sometimes the user management).

**ESL**

ESL Computer Services - a company distributing software products for SITPRO.

**EUROMATICA SA**

A consultancy and publishing company based in Brussels specialising in EDI matters.

**EXPERT SYSTEM**

A system based not upon a deterministic set of commands, but upon rules and facts which can be invoked by the computer in a heuristic way. The aggregate of the rules and facts is sometimes called a knowledge base.

**EXPORT (in the context of computer systems)**

A term used to indicate the facility to take data out of a system for easy IMPORT into another. Usually to a standard for data exchange, eg (for micros) DIF format, ASCII format, etc.

**EXPORTMASTER**

A SITPRO software package supporting export documentation.

**FALPRO**

A special programme on Trade Facilitation within UNCTAD.

**FASTRAK**

The Midland Bank's value-added network.

**FIELD**

A space in a computer FILE for a single item of data (such as name, age, sex etc). See also ATTRIBUTE.

**FILE**

The single physical store (in a computer) for data records of a single type (usually). A DATABASE is a set of related files (but they are sometimes called other things, such as SEGMENTS).

**FRAME (1)**

In PRESTEL, one full screen image. A Prestel page is made up of several frames.

**FRAME (2)**

The space in a physical sequence of DATA occupied by a single character CODE (particularly in TELECOMMUNICATIONS).



**MESSAGE-PAIR**

An elemental unit of work in a REAL-TIME INTERACTIVE system, implying one message to the computer and a response back to the user. A TRANSACTION is often made up of many message-pairs (but one message pair could comprise a number of transactions where they are entered in small batches).

**MIDDLEWARE**

A term occasionally used to refer to the software that comes between the OPERATING SYSTEM SOFTWARE and the APPLICATION SOFTWARE. Might include DATABASE MANAGEMENT SOFTWARE and TELEPROCESSING SOFTWARE. A term much used in ICL literature.

**MMI**

Man Machine Interface (See Man Machine Boundary).

**MODEM**

A device which takes digital signals (from the computer) and turns them into analogue tones (usually audible whistles of different frequencies) for transmission over communications lines (such as the telephone system). Derived from the expression MODulator/DEModulator.

**MOTORNET**

A special service to the motor industry provided by GEISCO.

**NCC**

The National Computing Centre. A non-profit distributing organisation that was once a Quango but is now independent. Aims to be a national centre of expertise in computing, and provides related services in education and consultancy. Very active in the early days of EDI and still sponsors annual conferences.

**NET EXPRESS**

A SITPRO package for export businesses.

**NORMALISATION**

(In data analysis) The process of taking compound data structures (made up from many different sub-structures) and identifying their elemental parts. It is usually seen as a three-stage process, hence First, Second and Third Normal Forms (sometimes referred to as 1NF, 2NF and 3NF). Important in creating elegant data syntax structures, as needed in EDI.

**ODETTE**

The Organisation for Data Exchange by Telecommunications in Europe. An early example of widely adopted EDI practice within the car manufacturing business, using UNECE TDI.

**ON-LINE**

Connected to the computer (but not necessarily operating in REAL-TIME).

**OPEN SYSTEM INTERCONNECT (OSI)**

A set of standards developed by ISO to deal with the complexities of connecting systems together and the communications technology that achieves connection.

**OSI**

Open System Interconnect. See OPEN SYSTEM INTERCONNECT.



**INCOMPATIBLE**

An ill-defined term which generally indicates an inability on the part of two machines to co-operate. Should really be defined separately in terms of the sharing of PROGRAMS, DATA, and at defined levels.

**INFORMATION**

That which comes from data upon interpretation of the data.

**INFOTRAC**

ISTEL's UK communications network supporting their EDI services.

**INTERACTIVE SYSTEM**

A system which interacts with the END-USER in the sense that it reacts in the same time-frame that the end-user works in. See also REAL-TIME.

**INS**

International Network Services - a joint venture company (involving GEISCO and ICL) which has adopted the EDIFACT standard and which operates Tradanet International

**INTERBRIDGE**

A software product developed by SITPRO which facilitates the connection of existing business information systems to TDI and EDIFACT standard EDI services.

**ISO**

International Standards Organisation.

**ISTEL**

A software, systems and services company based near Birmingham, England, that has been one of the main commercial players in the European EDI business.

**JEDI**

Joint Electronic Data Interchange Committee - a UN committee dealing with the harmonisation of international EDI standards.

**KNOWLEDGE**

That which derives from the understanding of INFORMATION.

**LDS**

Logical Data Structure diagram. Showing the relationships between the different data structures inherent in a system. Structuring of data is important in EDI applications.

**LOGICAL**

Often used to distinguish the analysts conceptual view of a system - the logical view (concerned with ideas) - from the PHYSICAL view (concerned with the specific hardware and software to be used).

**MACHINE-READABLE**

Data in a form that can be read directly into the computer; for example bar-codes, magnetic tape, diskette, etc.

**MAN-MACHINE BOUNDARY**

The point at which DATA and INFORMATION passes from the person using the system into the system (or vice-versa). Implies keyboards, screens, printouts, mice, etc. (and fingers and eyes).



**SHIPNET**

Shipping Network provided to freight forwarders, carriers and banks by IBM.

**SITPRO**

Simplification of International Trade Procedures Board - a UK government sponsored organisation that has been very active in promulgating EDI ideas and practice throughout the United Kingdom and elsewhere.

**SNA**

Systems Network Architecture - a proprietary IBM standard for inter-computer communications and data exchange.

**SPEX**

A PC software package for export paperwork developed by SITPRO.

**STRUCTURED**

The concept of structuring in systems is most important. A structured system is one which is modular, easily understood, easily documented and easily maintained; cf MONOLITHIC.

**STRUCTURED ANALYSIS**

Systems ANALYSIS by a disciplined and staged METHOD which leads to a high degree of STRUCTURE in the resulting specification. Many proprietary forms exist (eg GANE & SARSON, YOURDON, SSADM, etc.)

**STRUCTURED PROGRAMMING**

Programming by a disciplined and staged METHOD which leads to a high degree of STRUCTURE in the program, related to the structure of the DATA that passes through the program and the structure of the DIALOGUE that the program supports.

**SWIFT**

Society for Worldwide Interbank Financial Telecommunication - a long established organisation providing global communications facilities for banks (but NOT EDI in the strict sense - more an advanced messaging systems comparable to Telex).

**SYNCHRONOUS**

Usually referring to two independent processes, but implying that they are working together in time, ie they are synchronised. Particularly in communications, where two connected points work together to the same time cycles.

**TDED**

The ECE's Trade Data Element Directory which provides a standard definition of all defined data elements that might be used in an electronically-stored document.

**TDI**

Trade Data Interchange.

**TDID**

The ECE's Trade Data Interchange Directory.

**TEDIS**

The European Community's EDI programme for the whole of the community.



**PACKET SWITCHING SYSTEM (PSS)**

A communications facility which operates by collecting packets of data and sending them over a high speed network. A message may be divided down into many packets, each sent by a different route, and later reassembled before final delivery.

**PAGE (1)**

(In Prestel) The set of screen images making up a single accessible item of information. Made up from FRAMES.

**PAGE (2)**

(In virtual memory systems) A part of the MEMORY space which is transferred as a whole between the virtual and real memory areas.

**PHARMANET**

An EDI project for the Pharmaceutical Industry providing basic facilities for invoices and orders.

**POS**

Point of Sale.

**PRESTEL**

The British public VIDEOTEXT system which provides more than 350,000 pages of social, business, travel, news and other information access over the telephone network using low-cost equipment.

**PSS**

Packet Switching System (Service).

**PTT**

Post, Telephone and Telegraph (a generic reference to any national Post Office or whatever).

**REAL-TIME SYSTEM**

One which operates in a timescale and with a responsiveness that relates to the real world process that it is a part of.

**RELATIONAL MODEL**

A theoretical model of the way idealised data structures can be related to one another solely by means of shared key data, giving the foundation for the RDBMS idea. Provides very open access to data that is not possible with other non-relational approaches (eg hierarchical and networked databases). Developed at IBM by Ted Codd.

**RELATIONSHIP**

The logical link between two data structures that is established by means of shared key data (such as product codes, account numbers, etc).

**SAD**

Single Administrative Document for international trade adopted in Europe.

**SERIAL PROCESSING**

One thing at a time (as distinct from PARALLEL).

**SESSION**

Generally, the period of time from the start of using a computer to the end. Sometimes formally defined and used for charging usage back to the end-user. Also defined in the technical sense within OSI to assist in defining communications control standards.



**UN-ECE**

The United Nations Economic Commission for Europe; they have a working party (WP4) dealing with EDI.

**UN-GTDI**

United Nations Guidelines for Trade Data Interchange.

**UN-NORMALISED**

Data structures which have not been normalised into their idealised TNF sub-structures (or which are composites of TNF structures).

**VADS**

Value-added data services - implies basic communications network facilities with additional "value-adding" services which bring the overall level of service closer to what the customer or user needs.

**VAN**

Value added network - see VADS.

**VANGUARD**

A DTI-sponsored programme to further awareness of EDI and its potential for the United Kingdom.

**VIDEOTEXT**

A technology which allows television sets (and more sophisticated display terminals) to show digital information including text and simple graphics; eg CEEFAX and ORACLE (broadcast videotext) as well as PRESTEL (digitally networked videotext).

**WAN**

Wide area network.

**WIDE AREA NETWORK**

A network which is not confined to one location. Can be implemented using the public telephone network or data services, including conventional cables, microwave links, optical fibres and satellites.

**X25**

The widely used international standard for a special kind of communications network which sends "packets" of information rather than whole messages, providing for better overall utilisation of the communications facility. Hence PSS - Packet Switching System

**X400**

The new standard for message interchange which will allow the independent electronic mail systems to co-operate (and their users to communicate).



**TELECOM GOLD**

(Prop) The electronic mail service offered by British TELECOM and taking the majority of the UK market at present.

**TELECOMMUNICATIONS**

The technology which achieves connection between two distant co-operating systems.

**TELEPROCESSING**

Literally, processing at a distance. Teleprocessing software supports remote communications with other co-operating systems.

**THIRD NORMAL FORM**

The third stage in data NORMALISATION. Necessary for the development of RELATIONAL DATABASE SYSTEMS.

**TNF**

Third Normal Form. See THIRD NORMAL FORM.

**TOP-DOWN**

ANALYSIS or DESIGN from the broad overall level to the detailed lower levels usually by DECOMPOSITION of each level into the next.

**TP**

TELEPROCESSING or TRANSACTION PROCESSING, according to context.

**TRADACOM**

A standard for data interchange in the retail industry using TRADANET.

**TRADANET**

(Prop) The ICL combination of product and service which achieves ELECTRONIC DATA INTERCHANGE.

**TRANSACTION**

Either the aggregation of process that achieves a complete transaction or the stored data that represents the substance of a transaction, according to context.

**TRANSACTION PROCESSING**

Processing which is designed to complete one TRANSACTION at a time (cf BATCH PROCESSING).

**UKAS**

The United Kingdom Aircargo System, superceding ACP-80

**UN**

United Nations

**UN-CID**

The ICC's Uniform Rules of Conduct for the Interchange of Trade Data by Teletransmission.

**UNCTAD**

The United Nations Conference on Trade and Development

**UNCITRAL**

The United Nations Commission on International Trade Law

