LATE NEWS

ransputer Applications 90

UK based parallel computing con-
ultants Transputer Technology So-
lutions (TTS) will host a major
ernational event, Transputer Appli-
tions 90, in Southampton, UK, be-
tween the 10 and 13 July 1990.

e principal event at Transputer Ap-
lications 90 is the second SERC/
TI Transputer initiative sponsored
ernational conference. Ten invited
eakers from six countries with 75
bmitted paper presentations in five
parallel sessions reflect a rapid
rowth of transputer-based parallel
mputing as a solution to real appli-
cations problems.

major exhibition of transputer hard-
are and software products will be
held concurrently with the confer-
ce. A variety of workshops and tu-
torials will also take place.

e Commissions's funded ESPRIT
Parallel Computing Action (PCA)
olds its first workshop just prior to
Transputer Applications 90 on 9
ly. The aim of the PCA is to stimu-
e activity in what is regarded as an
mportant strategic area of informa-
tion technology.

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Esprit
Information Exchange System
ies news

Issue No 27, April 1990

In Germany, the DFN Association provides a data communications
infrastructure for its members. DFN is the abbreviation of "Deut-
sches ForschungNetz" (German Research Network) and is the
name of an association of approximately 150 members, comprising
universities and research laboratories as well as industry. One of
the main goals of the association is the provision of a communica-
tions infrastructure for users in education and research, based on
international standards. The carrier of all the services DFN offers
to its members, is the Science Network, in German "Wissenschaft-
netz" or WIN.

WIN is based on the technology used in the German public DA-
TEX-P network, which is operated by the German PTT and is con-
nected both to the public network and to the IXI (International X.25
Infrastructure Backbone Service) backbone, the new European re-
search network facility. WIN is based on X.25, as are the other net-
works to which it is connected. WIN is currently being installed by

The GERMAN NETWORK
for
SCIENCE

DBP Telekom, the new branch of the German PTT responsible for
telecommunications, and operated on behalf of the DFN Associa-
tion. To its users, WIN offers several benefits. Besides being based
on a 64kb/s structure (with the option to upgrade to 2 Mb/s at the
end of 1990), the tariff structure of WIN is an important factor. Es-
pecially for universities, the volume dependent charging system
scheme of the public X.25 networks has discouraged the use of net-
work services. Within WIN however, charges are only related to
the capacity of the network connections, regardless of the volume
of data transferred. This encourages the use of data communication
services to improve the efficiency of the work.

As a consequence of the availability of WIN, the German part of
EARN (European Academic and Research Network) is migrating
to OSI-based services.

LATE NEWS

OFTEL Acts Against Junk Fax

OFTEL, the UK Body watching
over telecommunication opera-
tions, has announced steps to
curb the increase in junk fax.
Hopefully this action will be ex-
tended to other countries and E-
mail.

THIS ISSUE:

Esprit
DGXIII
Telecommunications
Information Industries
and Innovation

The GERMAN NETWORK for SCIENCE

Although EARN is based on IBM/RSCS/NJE protocols and operates using IBM proprietary protocols, there are a large number of protocol conversion packages for other computer systems. Thus more than half the node computers on the German portion of EARN are products other than IBM. EARN currently offers communication facilities like mail and file transfer; it is based mainly on leased lines between the node computers which in turn operate on a store-and-forward basis.

In DFN, communication today is already based on the supplier-independent OSI protocols. The German EARN Users' Group of DFN considers the provision of the X.25 WIN to offer the great opportunity to ease the migration from IBM proprietary protocols to international standards. Thus it should be feasible to introduce OSI conformant software such as X.400 electronic mail or FTAM based file transfer with a minimum of trouble for the users. The end-user thus will have

additional services available to complement the telecommunications services currently offered.

At a meeting in December 1989 at which the plans for proposed migration were discussed by some 100 EARN users and representatives of DFN, pleas were addressed by users to communication software producers: there was an urgent need for rapid availability on the market of cheap OSI-conformant products for operating systems currently in research use. The research community would be happy to undertake pilot testing of such products. This applies not only to communications software but also to the dialogue use services in accordance with Virtual Terminal specifications or X-windows techniques based on OSI-conformant software.

At present, the DFN Association finances the operation of the EARN backbone with governmental subsidies. With the coming into use of WIN, migration of all EARN node

computers to DFN will be possible so that the costs of the EARN backbone of approximately 250 000 Ecus annually can be saved.

Until OSI-conformant protocols become available for file transfer and remote job entry, the DFN Association will make available to all users the implementations for these functions. These were developed as an interim solution and financed by the German Ministry for Research and Technology. The DFN Association has also undertaken to maintain the X.400/EARN gateway and the international connection between DFN and EARN-BITNET, thus ensuring current EARN users access and communication on an international level.

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LANs	WANs	Gateways and Relays		Internat. Networks
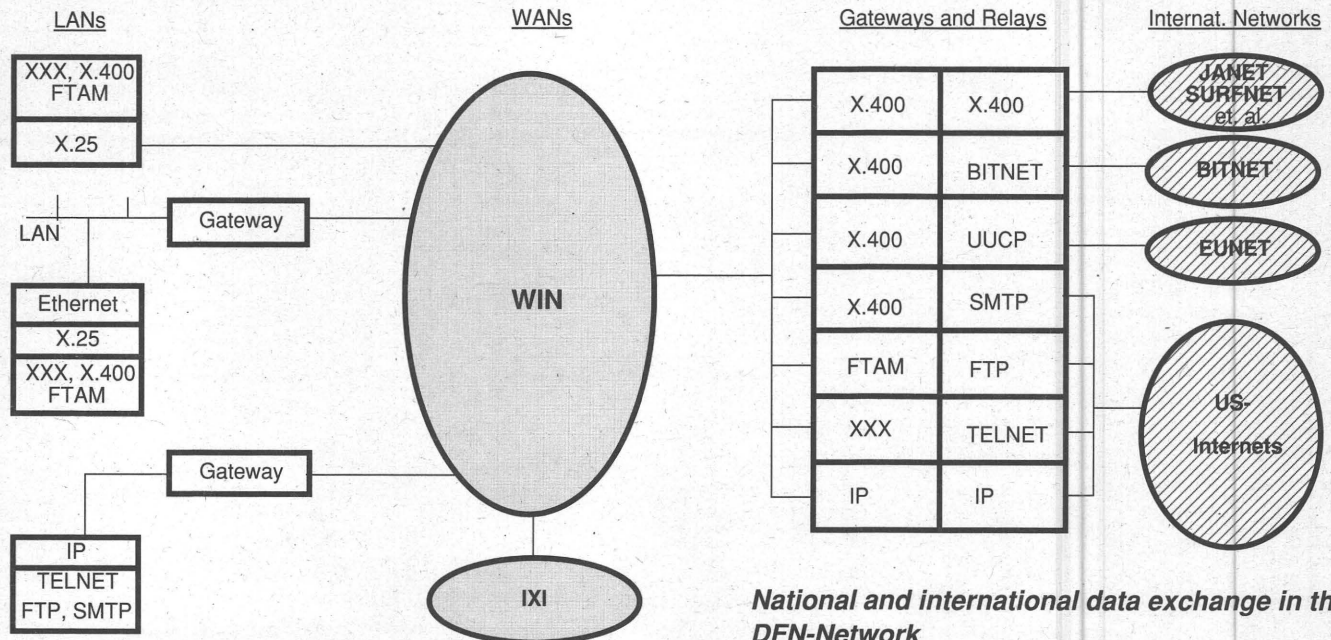
National and international data exchange in the DFN-Network

NETWORKING EFFORTS AND RESULTS IN CZECHOSLOVAKIA

Introduction

The significance of computer networks for increasing the usefulness of computers as a means for accessing information for a wide range of geographically distributed users was recognised in Czechoslovakia at an early date.

The Institute of Applied Cybernetics (IAC) in Bratislava commenced work in the late seventies aimed at development of network theory and design methods. Design and implementation of an experimental network based on (and restricted to) Czechoslovak and Comecon technology was the final target.

As no expertise existed, attempts were made to obtain assistance from outside. In the Czechoslovak case, experience gained by INRIA of France with the CYCLADE network proved helpful.

The approach to networking

Research and development in the area of computer communication was concentrated on network architecture and design, and on design and implementation of suitable software and hardware.

The result was a communication networks based on datagram packet switching technology. The nodes of this network used SMEP minicomputers (DEC PDP-like minis) produced in Czechoslovakia. It contained node computers (packet switchers), terminal concentrators, and front-end processors, based on relevant communication and network software produced at IAC.

The network was planned as a heterogeneous one, because three different types of host computers had to be connected to the network: SMEP (PDP-like) minis, Siemens (e.g. 7755) mainframes and "IBM-like" mainframes were supported by corresponding front-end processors, adapted to these above hosts. The bus-I/O channel interface was developed at IAC and used to interconnect front-end processors with "IBM-like" hosts. The node processor and front-end processor network were adjusted to the standard operating systems of the host computers. Using these components, the experimental network was built up and commenced operation in April, 1984. It was the first such computer network, not only in Czechoslovakia, but in the Comecon countries. The feature of this network is that access to the various host computers is provided from one type of terminal (VT100).

Present state of the network

The network started with a configuration of 3 node computers, 1 terminal concentrator, 2 front-end processors and 4 host computers. It grew to its present configuration comprising 11 node computers, 5 terminal concentrators, 9 front-end processors and 24 hosts. Sixty five organisations utilise services of the network.

The main interest of users is in online access to databases operated on the hosts. Remote job entry application is of lesser interest. The number of file transfer application has increased recently.

Services of the network are utilised by research institutes, universities, institutes of the Slovak Academy of Sciences (UAK) and several enterprises. Information gained by utilising network services is used as a support of research activities and for innovation in production.

Despite the fact that IAC-UAK is a non-profit organisation, the operation of the network is not subsidised by the Czechoslovak PTT or the Ministry of Telecommunications.

Future Developments

After starting the operation of the datagram network, research and development activities at IAC continued and were aimed at new network components. Development in networking abroad was taken into consideration in this continuing effort and resulted in hardware and software components for X.25 networks.

The results in X.25 networking support were speeded up by recent changes in Czechoslovakia. A new version of the experimental computer network, the X.25 packet switching network, is being built up as an experimental public data network, in close cooperation with the Czechoslovak PTT. It was also decided to conform to ISO standards instead of developing Comecon standards.Contact has now been made with DFN (Deutsches Forschungsnetz) and RARE, in order to create conditions for harmonising the Czechoslovak networking research and development community to the international networking environment. One of the aims is to interconnect the Czechoslovak network to other networks. Installing the commercial public X.25 data network has been accelerated by the Czechoslovak PTT. It is hoped that such a network will be available by 1992.

Conclusion

The computer network operated by IAC, besides enabling access to databases for a wide range of geographically distributed users in Czechoslovakia, has also served for educating users in working in a computer network environment. Networking activities and operation of the network by IAC contributed to producing skilled network specialist who will be useful in other networking projects, including public data network.

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PROGRESS MADE WITH OPEN SYSTEMS TESTING CONSORTIUM (OSTC) ACCREDITATION.

Open Systems Testing Consortium (OSTC) Eurolabs are testing OSI data communications products in MHS, FTAM, Teletex, Transport & Session and Network X.21, X.21bis, X.25 technical areas. In accordance with European recognition arrangements OSTC Eurolabs are currently having their own testing procedures independently inspected and tested by accreditation authorities. Documentation that has been in the public domain for some time and recently published European Standards (EN 45000) are used as a basis.

The result is that many of the OSTC Eurolabs are now fully accredited by national authorities. In cases when accreditation has not yet been attained, the process is well underway.

This means that MHS, FTAM, Teletex, Transport & Session, X.21 and X.25 conformance testing carried out in OSTC accredited Eurolabs fully complies with European Requirements.

OSTC technical input for accreditation was initiated as part of the CEC funded CTS-WAN programme (1986 - 1989). This work involved the specification and publication of abstract tests, the definition of operational documentation and the definition of procedures to carry out these tests on different commercially available test tools. ISO 9646 was the basic test methodology followed. To ensure equivalence the tools themselves were then tested (using Reference Implementations) to assess if published tests had been implemented correctly on test tools and that OSTC engineers had the skills to employ technical procedures. Once the

OSTC ACCREDITED SERVICES

Accredited by	NAMAS	RNE	DEKITZ	NAMAS	MTTC	CIMECO	STP DK
	UK BT	France SEPT	FRG FTZ	UK NCC	Spain Telefonica	Italy CSELT	Denmark PTT-DK
X.21 Bis 1			●		●	●	○
X.21 DTE			●				●
X.25 2/3			●		●	●	
X.75			●				
T (0-2)		●		●			
S		●		○			
TTX (4-7)			●		●		●
MHS (4-7)	○		●			●	
MHS (6-7)	○	●	●			●	
FTAM (6-7)			●				
Accreditation date	03.90	12.89	05.88	12.89	11.89	Step 1 12.89 Step 2 ongoing	07.89

● now accredited   ○ pending accreditation

Accreditation Organisations used by OSTC

NAMAS	National Measurement Accreditation Service
RNE	Réseau National d'Essais
DEKITZ	Deutsche Koordinierungsstelle für IT-Normenkonformitätsprüfungen und -Zertifizierung
MTTC	Ministero de Transportes Turismo y Communicaciones
CIMECO	Centro Italiano MEtodologie di COntrollo
STP DK	Statens Tekniske Proevenaevn

tools were fully installed in Eurolabs and the testing of data communications products started, the accreditation organisation were called in to carry out the independent assessment.

In all cases, the national accreditation organisation has, by ad-hoc appointment of appropriate experts, acted as the independent assessor. The table below summarises the accredited services in January 1990.

OSTC Eurolabs are preparing a summary document outlining their experience and knowledge of the local procedures employed during accreditation.

This document will be made available to the European Organisation for Testing and Certification (EOTC) represented by the European Committee for Information Technology Certification (ECTIC), the sectoral committee under which OSTC operate as a Recognition Arrangement.

One of the main objectives of OSTC is to encourage competition in the provision of harmonised testing services. Therefore, OSTC engineers will assist manufacturers and other interested parties to open up their own in-house testing services compatible with OSTC services.

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The OPEN ITS
An Open Approach the Testing Open Systems

The following article takes a closer look at a new SPAG-driven initiative aimed at achieving a harmonised open environment for open systems testing.

Originally the brainchild of SPAG's Test Advisory Committee (TAC) the concept has been further refined both within the SPAG organisation and in consultation with other external parties both in Europe and abroad. There is now a consensus of understanding and support for this "open" approach to testing through the adoption of an OPEN Integrated Test Specification (or OPEN ITS for short).

The benefits - to both users and vendors alike - of opening up Conformance Testing technology for Open Systems mirror many of the advantages of the Open Systems market itself. Support for the OPEN ITS was much in evidence at the recent Consultation Workshop, hosted by SPAG in Brussels on January 16-17. The event attracted some 45 experts representing 25 key organisations (including the CEC) involved in OSI testing both in Europe and the Americas.

It is perhaps an opportune moment for those readers who are not familiar with the conformance testing market to describe the current scenario. The market for Conformance Testing Tools has essentially been addressed since the mid-80s by a number of competing vendors, each with their own particular approach. The history of their development is very pertinent to the case for OPEN ITS.

Initial investment by a Conformance test user to obtain one tool usually represents a high investment in the necessary hardware, operating systems, general tool environment, training and the specific tool itself. Thereafter, the addition of new testing functionality may be at a reduced relative cost, as the conformance test user is able to capitalise on his existing investment - so long, that is, as he remains with the original supplier. This, in effect, locks the user into a proprietary system, unable to change without a massive write-off of existing investment or similar high investment in new material.

From the test supplier's point of view he is forced to compete for initial sales on price/performance criteria with little threat of competition in the future as the prospect is locked-into his particular product range. The down-side to this, as far as the supplier is concerned, is that he must satisfy his customers' most disparate requirements. Value-added suppliers have not yet emerged to provide commonly required functions, as the market is too fragmented and the tool environments too diverse to create a sufficiently large market to warrant the investment.

The time is ripe to tap this market and bring the benefits of open systems concepts to both the users and suppliers of conformance testing.

The TAC task force that first formulated the OPEN ITS concept came up with a relatively simple solution, stemming from the fact that conformance testing is already standardised by ISO and CCITT, with the actual testing process - known as the Test Campaign - specified in ISO 9646. Examination of Conformance Testing Tool architecture for protocols above the physical layer reveals great similarities in

The OPEN ITS
An Open Approach the Testing Open Systems

principle, but with a great deal of differentiation at the detailed level.

The OPEN ITS starts from a simple premise: as the Testing Process, entities used in testing, and test object are all subject to standardisation, this has the effect of imposing a similar process and architectural model on any conformance tester. Having defined this model in broad terms, a number of discrete components can be identified, and the interfaces between these components and the rest of the test system can be specified. This logically leads to the concept of a test system seen as a set of interchangeable components, each with a discrete interface to the other components.

From this it can be seen that such components could be developed by different conformance test suppliers, chosen by users according to individual requirements, and incorporated into an overall Test System. In this way a whole test system model can be built up based on standardised Test System Components and a standard Test System Architecture, all supporting a standardised Test System Process.

This system would meet the requirements of Test System Managers: Test Operation is highly procedural, and subject to approval by formal accreditation and recognition agencies. Standardisation of the test campaign is welcomed by Test Centre Managers as providing a clear framework for running tests, using standardised processes and objects, so that, irrespective of the tool in use, the Test Centre Operator would always know which stage of the test campaign has been reached.

Finally, the OPEN ITS specifies the characteristics of the operating environment in which it should function. This will be expressed in terms of the X/Open Common Applications Environment. In order to ensure long-term availability maintenance of the OPEN ITS specifications and elements will be standardised either as an ISO technical document or through a registration mechanism.

In this way tool components can be sourced from any conformance test supplier based solely on fitness for purpose and price. Conformance test user investment can then be incremental with no obsolescence or major write-off costs. Conformance test suppliers are free to develop a range of components, or can specialise in particular aspects, confident that a wide market exists from which to recover their investment. Test centre managers and operators have a firm framework for conducting test campaigns.

SPAG is proposing the OPEN ITS in Europe, and through its links with COS and POSI (through the C-P-S Forum) intends to promote the concept to the US and Japan. European Conformance Testing developers, who have always been at the forefront of development, are extremely well placed to capitalise on this world-wide market.

In Europe SPAG is continuing to work with its shareholders and with Test Tool developers in a series of Open workshops to produce the OPEN ITS specification. Concerns have been expressed about the long-term maintenance and availability of this specification. In order to address these concerns, two initiatives are being followed. Firstly the environment

specification (the framework for OPEN ITS) is being submitted to ISO as a Technical Report. The second initiative is to establish a registration activity for the interface mechanism between OPEN ITS components. In this way the interfaces will be accessible to all interested parties using an established ISO procedure.

Clearly the migration of existing test tools to the OPEN ITS will not happen overnight. The first specification will address relatively few components and interfaces, and these will be extended as time progresses. The OPEN ITS does, however, provide an overall framework for developers to work in, so that increasingly components of tools may be categorised as OPEN ITS compliant, leading to an evolutionary migration to full OPEN ITS test tools.

A draft version of the OPEN ITS Specification (Part I) was distributed at the first international Consultation Workshop in January 1990. A second Open Technical Workshop for test tool developers was organised by SPAG in Frankfurt in mid March 1990. Firm proposals based on discussions both during and beyond the scope of these workshops will soon lead to the publication of Version 1 of the OPEN ITS.

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The European Electronic Mail Association
A Progress Report.

EEMA, the European Electronic Mail Association, was founded three years ago (see IES News, No. 9 and 10). Since then, the Secretariat has moved to The United Kingdom and many new activities have started, mirroring to a large extent the growing use of electronic mail in Europe and the progress in research and other networking so vigorously supported by the Commission.

EEMA represents actual and potential users of E-mail, as well as service providers, equipment manufacturers, software suppliers, public and private telecommunication operators, together with academic, professional and other special interest groups who are or will be involved in the implementation of integrated European E-mail and message handling services (MHS).

With the progressive liberalisation of telecommunications following the Commission's initiative in this area, more and more telecommunication services are becoming available in the Member States and other European countries, these being offered by both Public Telecommunication Operators and, where permitted, by third party value-added service providers. Of these services, the most common are public and private E-mail facilities, although other services have recently become prominent. A typical example is the growth of Electronic Data Interchange (EDI) application-oriented services.

One of the major difficulties in the wider use of E-mail is that present-day services are generally incompatible to the extent that users of one service are unable to exchange messages with users of other, rival services. Operator assistance is also frequently lacking. One result is that the old-fashioned services such as letter post and the telephone offering universal message delivery to every part of the globe continue to be very popular. The growing appeal of facsimile transmission using the telephone network is another feature which may retard the market penetration of E-mail, especially given the sharp drop in investment required in fax equipment where prices are within the reach of most potential E-mail users.

Recognising the need to further pan-European Interconnectivity of electronic message handling systems and services, the Commission has encouraged EEMA to take the lead in developing a Memorandum of Understanding (MoU) in this area. EEMA has set up a task force for this purpose with members drawn from The Netherlands, The United Kingdom, France and Italy, representing both industrial users and public and private operators.

A three-stage approach is being made in the development of this MoU. The first stage is to establish demand: service providers have to be certain that there is a sufficient demand for an interconnected electronic messaging network. This will require positive response from the players concerned, i.e. potential users and vendors of messaging products and services. To further this stage, a Declaration of Support for the pan-European Interconnection of Electronic Message Handling Systems and Services is being developed by the task force. The Declaration states that interconnection would be based on X.400. (Other European activities in network interconnection spearheaded by RARE and the Commission, especially COSINE and the IXI Backbone Service, as well as Y-Net, are designed for research usage and interchange of research data etc. Messaging represents only one aspect of the services to be provided, even though it is an important one. The facilities to be provided are however intended solely for research purposes and not for industrial or commercial ones, so that interconnectivity for services catering for these applications has to be achieved separately.) The Declaration of Support will be open for signature by all market participants. Service providers should contribute to the development of the MoU; vendors develop and market products; and users interconnect their private services to the pan-European system. The Declaration of Support includes suggested principles to be incorporated in an MoU. Stage one will be completed on obtaining signatures for this Declaration.

Stage two will be the actual development and signing of the MoU, and will follow as quickly as feasible after the first stage. Signatories of the MoU will be committed to stage three, the specification for the interconnected system and its implementation.

In this context, EEMA has also prepared comments on the Working Doc-

The European Electronic Mail Association

A Progress Report.

ument on the Application of Open Network Provision (ONP) to Public Data Networks (PDNs) developed and published by the Analysis and Forecasting Group (GAP) of the Senior Officials Group (Telecommunications) (SOGT). The EEMA comments were presented at a meeting convened by the Commission in October 1989. The proposals to standardise and harmonise the network characteristics and services to be provided on Public Packet Switched Data Networks (PSPDNs) is welcomed by EEMA, but at the same time recalling the earlier plans of many years ago for EURONET and its absorption into the emerging PSPDNs which was not realised because network operators at that time did not perceive commercial advantages in upgrading their networks to international standards, EEMA stresses the need for some pressure to be brought on service providers to implement the GAP proposals. EEMA members use PSPDNs in several ways ranging from utilisation of Permanent Virtual Circuits and X.25 facilities via X.28 or X.32 dial-up, leased lines and X.400 procedures. Specific points made by EEMA include the need to indicate costs of any mark up made by value-added service providers using PSPDNs for transport purposes where automatic reverse charging applies; concern that dial-up X.28 access does not include as an ONP offering the 300 bit/sec rate which is still widely used by many E-mail users; and the essential need to allow E-mail users to access their mail-boxes from all locations, not only nationally but internationally at the earli-

est possible moment. Other comments relate to simplification of commands and error messages, charging levels and local dial-up access using both X.28 and X.32, this last being particularly important in less developed countries where geographical coverage could encourage the use of PSPDNs for electronic messaging services. EEMA are not alone in pressing for early introduction of automatic reversed charging on an international basis.

In reviewing activities by EEMA, mention must also be made of the Joint EEMA - US Electronic Mail Association Conference, the first common venture, held in Miami 28. February - 1. March 1990. EEMA also publish a newsletter, EEMA Briefing.

Further details of EEMA, its activities and publications can be obtained from:

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COMPUTERISED ACADEMIC COMMUNICATION NETWORKS IN AFRICA

At the UN University (UNU) Programme Advisory and Planning Meeting, held in Tokyo in April 1989, it was strongly recommended to undertake a study on the state-of-the-art, operation and impact of computerised academic communication networks, with special attention to meeting the needs of universities in the developing countries, normally partners of the UNU.

Since many such networks are in the experimental or operational phase throughout the world, there was general consensus that a study on "academic computer communications" especially oriented to the needs of developing countries was not needed.

It was stressed that pilot projects are necessary and would be very useful particularly for universities in the African countries. The pilot projects on computerised communications should put high priority on messaging, i.e., E-mail, teleconferencing and the more traditional file transfer; information retrieval from databases and remote job sharing are of secondary importance. Such projects should be related to on-going research within the UNU programmes.

For the short term, three activities were singled out for action:

a. a combined UNU projects on networking at the University of Yaounde (with the assistance of INRIA and TELECOM, France) with the AFRIMAIL project in Tunisia

(IDRC and Unesco);

b. active cooperation on the organisation of the International Workshop on Packet Radio Technology and Applications to be held in Tunis in 1991;

c. participation in establishing the East and Southern African Network (ESANET) in five universities in African countries where UNU is also involved: Kenya, Uganda, Tanzania, Zambia and Zimbabwe.

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REMINDER

You will have received recently a Renewal Notice to your free subscription of IES News, together with a request to verify your mailing address. Please do not forget to return this form if you wish to ensure that you continue to receive this newsletter.

The EDITOR

NB: Address changes received after 20 April could not be implemented for this issue. We crave your understanding.

COORDINATION OF EUROPEAN ISDN TELECOMMUNICATIONS ACCELERATES AHEAD OF 1992.

The coordinated introduction of the Integrated Services Digital Network (ISDN) in the Community is moving ahead fast, with most of the technical standardisation work now completed, according to a report adopted by the Commission recently.

This contrasts with the Commission's first annual progress report on ISDN in 1988, which drew attention to delays in the transnational implementation of the network.

Commenting on the 1989 report, Vice President Pandolfi said: "ISDN has the potential to develop into an essential component of the new nervous system which the 1992 market so urgently needs. It will now be decisive to proceed rapidly with the development of pan-European services, in order to put the new services at the full service of the European citizen".

The ISDN can be considered a natural evolution of the telephone network. It will allow, via a single access and using the existing subscriber line, the transmission of voice (telephony), text, data and images in the form of a multitude of more efficient or new services. ISDN has a central preparatory role in the introduction of Integrated Broadband Communications (IBC), the objective of the Community's RACE programme (Research and development in Advanced Communications technology in Europe).

European ISDN coordination was specified in 1986 under a Council Rec-

ommendation (86/659/EEC) which requires the Commission to report each year to the European Parliament on the progress of implementation.

The report adopted today finds that substantial progress was made in 1989, with 60-70% of the technical standardisation completed due to an accelerated work programme for the more than 200 European telecommunications standards (ETS) needing definition. This will give the European telecommunications industry a solid basis for its development work and a clear competitive edge on the world market.

Four Member States had introduced commercial ISDN services by the end of 1989 and four more launched experimental systems, shortly due to become commercial, the report confirms. All Member States plan ISDN introduction before the end of 1992.

This faster progress follows a Council Resolution of 18 July 1989 on strengthening coordination for the introduction of ISDN in the Community up to 1992. In response, 23 Telecommunications Administrations and recognised private operators from 18 European countries, including all Member States, signed a commitment for the launch of pan-European ISDN services by 1992.

The Commission's report states that developing clear strategies for marketing the new services, call charges (tariffing) and ensuring the protection of

COORDINATION OF EUROPEAN ISDN TELECOMMUNICATIONS ACCELERATES AHEAD OF 1992.

privacy in the new digital environment will now be decisive issues for ISDN.

A number of actions are therefore proposed in the communication from the Commission. These notably include:

- the creation of a European ISDN user forum;

- publishing information on the emerging ISDN services at the European level;

- setting up R&D projects for basic ISDN terminals;

- working out specifications for procurement of ISDN terminals by major users, including the Community institutions;

- and investigating the possibilities for stepping up the support for ISDN in the context of the STAR programme and related programmes, financed by the European Regional Development Fund.

NETWORK SERVICES TO LIBRARIES

Project Jupiter began life in February 1989, as a Project commissioned by the UK's JANET User Group for Libraries (JANET being the UK academic community's X.25 wide area network), with the aim of promoting all aspects of library use of the network to the UK academic library community at large. This aim subsumes the functions of training of library staff, and the production of a reference manual and other publications designed to assist librarians to become familiar with a network which had for too long been considered the preserve of scientists and computing specialists. In addition, the Project - which has an initial lifespan of only two years - will shortly launch an interactive bulletin board service on JANET, BUBL (the "Bulletin Board for Libraries"). The Project is based at Glasgow University Library.

JANET represents the possibility of the delivery of WAN-based services to libraries. But as yet, JANET is not being fully exploited by its member libraries, for a variety of reasons, largely financial and historical. The major network services which JANET offers libraries at the present time are described below, with a brief overview of potential services which are still awaiting the necessary development.

Current Services.

The ability to interrogate the online public access catalogue ("OPAC") of other libraries on the network has ex-

isted on JANET since 1986. The current OPAC profile includes the majority of university libraries (although about a dozen have yet to connect their OPACs to the network, including, surprisingly, the large universities of Birmingham and Nottingham), a mere handful of polytechnic and college libraries, one or two Research Council Libraries, one or two Research Council Libraries, and the National Library of Wales.

Library users and staff at any JANET site can log in to any of these catalogues from a JANET terminal in their own institution. This can be useful when, for example, a student seeks an item from a library which is relatively close to his own, and which offers reciprocal borrowing. It also permits an elementary form of bibliographic checking, as well as providing library staff with the more dubious service of a window onto the interfaces of different vendors' OPAC products, and onto the collection strengths, levels of comprehensiveness and cataloguing niceties of their fellow libraries around the country.

However, this service is undeveloped. Its real use will come in time with the provision of a virtual UK academic union catalogue, supporting record supply and interlending. Once the number of OPACs currently on JANET has doubled, and all of these OPACs contain records for all the items their libraries have in stock (which will take much longer), then the facility will have real value,

mostly achieved by the manipulation of this distributed data by networking protocols which will execute extensive searches quickly, in parallel, and provide interface independent interrogation and retrieval. Such protocols belong to the open system standards such as CCITT X.500, and ANSI Z39.50.

Free communications

The British Library represents a commercial service on JANET. In 1987 it negotiated the connection of its two major remote access services, Blaise-Line (for record supply and bibliographic searching) and ARTtel (for interloan requests). Libraries accessing these services across JANET gain no advantage in subscription cost to the services themselves, but are benefitted by the more intimate association arising from the direct connection.

Professional development

The potential for professional development offered by wide area networking and internetworking, is significant. Through the use of services based primarily on electronic mail, but also on interactive information servers such as bulletin boards, library staff have the opportunity to converse, discuss and research dynamically, with colleagues throughout the world. In this respect, librarians may be considered most akin to the growing body of academics, students and researchers in the humanities, for whom computers and networks are beginning to alter teaching methods, teacher-student relationships, and approaches to research.

Unfortunately, it is this area of JANET use that is least known about in libraries. This is because the network is still

NETWORK SERVICES TO LIBRARIES

regarded as an institutional, rather than a personal, tool. Thus, libraries are prepared to pay for terminals with JANET connections on a limited basis: one for Blaise-Line, one for ARTtel, perhaps, and one or two to allow students to interrogate other library catalogues (these might run front-end software to facilitate and direct user choice of OPAC). But in order that the network can serve the aim of professional development, the distribution of terminals (which ought to be micros or workstations) must be comprehensive across the library staff, or at least the professional library staff.

Listservers create professional communities bonded by electronic mail. These communities may be as small as a special interest group committee of six, or as large as an international conference of several thousand. UK librarians have listservers at their disposal, and the one which is best-known is "Library mailing", which is a general institutional and personal list of JANET users in UK libraries. It is used for seeking advice on purchases, tracking down elusive books and journals, advertising the sale of old stock, distributing questionnaires, and disseminating information of general interest to the library networking community.

More exciting than "Library mailing" is "PACS-L", the "Public Access Computer Systems List" which is based on a listserver in the University of Houston, accessible on BITNET. This list, made up of individual US

and European librarians and information workers, provides a loose ongoing conference on all aspects of library automation. There is also an electronic journal - "PACS Review" - whose articles reside in an archive controlled by the listserver.

Once librarians begin to explore their professional interests over the network, they realise just how great the scope is. The US academic community has led the way in developing services of this sort, and there exist several special interest groups which function exclusively on a networked basis, with a range of services offered including directories, job vacancy hotlines, calendars of events, and so on. But in the UK, too, there are services available which relatively few librarians are aware of, such as a free software archive at Lancaster University, a union catalogue of computer software at Southampton, and a very comprehensive arts and humanities computing bulletin board at Leicester.

The future

For the future, libraries can expect to become much more reliant on JANET than they are at present. Data communications standards for library operations based on OSI are currently in development. The European Commission (DGXIII-B), indeed, is funding a project to explore interconnection for an interlending system based on OSI which involves the UK's London and South East Region library authority

NETWORK SERVICES TO LIBRARIES

(not a JANET member), with partners in France and Holland.

Interlending is just one operation which OSI is likely to transform. Electronic file transfer of bibliographic records is another, and is likely to be based on FTAM. The ordering dialogue between libraries and their suppliers is a third, and it - like searching - should ultimately be based on the X.400 standard for electronic mail. The X.500 standard for directory services is also likely to have library applications, with some researchers already hailing it as the ideal interlending interface to the distributed online catalogue. Another standard which has recently emerged in the US, ANSI Z39.50, offers the prospect of distributed OPAC look-up and record retrieval, independent of individual system interface. In the service of record supply it could therefore represent possibly the most important tool of the "virtual union catalogue", based on the independent OPACs of network-connected sites.

Revolutionary developments are in store. The only question is whether or not the library community - throughout Europe - has the political will to take advantage of them. A proposal has been submitted by Project Jupiter to the newly-formed UK Office for Library Networking, to seek funding under the Commission's Plan of Action for Libraries in the EC, for a "European Libraries OSI Product Group". This Group should be formed of librarians, library system suppliers and network managers from throughout the Community, with the common aim of identifying the OSI-based products which libraries require in order to take advantage of the internetworked landscape in which we all now operate. The work of such a group ought to spur suppliers into producing the tools which libraries, now awakening to the possibilities, are coming to realise they need. In the delivery of network services to libraries, Europe has both the infrastructure and the OSI foundation (in the COSINE Project) necessary to take a leading role. This is an opportunity which we should not let slip.

N.B. OSI Application layer standards for ILL and Search and Retrieve are in development in ISO/TC46/WG4 and are about to be issued as Draft International Standards (DIS).

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CARD OPERATED PUBLIC PAYPHONES TO BE STANDARDISED IN EUROPE.

Fumbling for the right coins to make a phone call is a nuisance, especially for international travellers. Now card-operated public payphones are increasingly common - yet the cards may be no more compatible from one country to another than are the coins.

The Commission has therefore launched an action to develop European standards for card-operated payphones. Under a mandate issued by the Commission, these standards are to be produced by the Comité Européen de Normalisation (CEN) in cooperation with the European Telecommunications Standards Institute (ETSI). Under existing EC rules (Directive 83/189/EC), Member States are now prevented from developing national standards in this field so that the present proliferation of incompatible national telephone cards will be stopped.

The European standards to be developed will cover the following types of cards:
- credit and debit cards
- cards which will enable the personal or business telephone account of card users to be automatically billed for calls made anywhere in Europe
- prepaid phone cards
- cards for the operation of mobile telephones

The standards work will be carried out in coordination with standards work on card technology ongoing in other sectors, notably the financial, transport and medical sectors, and will be fully aligned with standards developed at world level.

COSINE NEWS

Cooperation for Open systems Interconnection Networking in Europe.

COSINE News intends to cover viewpoints of all parties with interest in COSINE.

Notification of Invitation to Tenders

COSINE Service S2.1 Message Handling Systems - Interworking of Existing X.400 Domains

As part of the implementation phase of COSINE, tenders will be sought from organisations to implement the CO-SINE MHS service. The purpose of the service is to ensure interworking between national X.400 services (and to assist with the creation of and migration to, national X.400 services in countries where they do not exist). There will be two phases. The first phase will be the provision of functionality at least equivalent to that currently available from the existing pilot project run by RARE. The second phase will provide an upgraded international integration and support activity to create one single European OSI MHS service, achieved by the coordination of national activities. The second phase could be split into separate activities for international coordination and the development of support tools. It is possible that separate contracts could be awarded for phase one of and all, or part of phase two.

Complete or partial tenders will be sought to achieve the project objectives, which are in summary:

1 To enable national end-users to use an international X.400 (84) MHS.
2 To provide national MHS managers with information on other national MHS services participating in COSINE MHS.
3 To provide national MHS managers with an error reporting service on the international level.
4 To link the COSINE community to similar communities in other parts of the world.
5 To provide an international service over national and local services.
6 To encourage the participation of other MHS initiatives in the COSINE MHS service.
7 To encourage the public X.400 services to provide a better service than COSINE MHS.
8 To cooperate with COSINE sub-project P2 (Pilot Information Services).
9 To provide tools for maintaining and managing the COSINE MHS service.
10 To ensure full connectivity to existing international RFC mail networks
11 To encourage the migration of experimental MHS services to become fully operational.
12 To provide a single, unified European MHS service.
13 To advise the COSINE Project Management Unit on the requirements for transition to X.400 (88) services.

COSINE Service S2.2 Message Handling Systems - Gateway Services to USA

During the COSINE Implementation Phase it is essential to provide an electronic mail gateway service to North America to support communication between the European and North American research communities. A number of MHS gateways already exist at the national level and tenders will be sought from organisations to establish a back-up service for these gateways, as well as provide a service to users on those national networks that do not have a gateway. Although this activity is planned to provide a COSINE Ser-

vice conformant to CCITT X.400 recommendations, an initial investigative phase is required to establish a service definition and to identify suitable software products.

Complete or partial tenders will be sought to achieve the project objectives, which are in summary:

1 To provide an X.400 MHS gateway service definition.
2 To provide an X.400 MHS gateway service to North America.
3 To provide recommendations based on experience from operating the gateway.
4 To define and document gateway service tests that can be used to ensure an operational gateway is performing to adequate levels of service and functionality.
5 To provide management information support tools.
6 To provide information to the COSINE Project Management Unit so that an on-going, self-sustaining gateway service can be maintained beyond the period of the COSINE subsidy.

COSINE Sub-Project P1.1
Pilot Gateway Services to USA,
Prior to Transition to Operational Services - FTAM

During the COSINE Specification Phase, conversion between file transfer protocols was identified as a key element in the migration, within the COSINE Implementation Phase, from "interim" protocols to the ISO defined FTAM standard (ISO 8571/1-4). This resulted in a study performed to review

several areas to be considered when selecting, installing and operating real-time (on-the-fly) converters between file transfer protocols. Tenders will be sought from organisations to establish as a pilot such a file transfer protocol converter, initially to provide a gateway to the research community in North America for users in the COSINE community.

Complete or partial tenders will be sought to achieve the project objectives, which are in summary:

1 To provide a pilot FTAM gateway service to North America.
2 To provide recommendations based on experience from the pilot gateway.
3 To define and document gateway service tests that can be used to ensure an operational gateway is performing to adequate levels of service and functionality
4 To operate the pilot service for 36 months
5 That the hardware and software resulting from the pilot phase is capable of being used in an operational service environment.
6 To provide information to the COSINE Project Management Unit so that an on-going, self-sustained gateway service can be contracted beyond the pilot project.

The tendering organisations are to be based in one of the COSINE countries. It is expected that the successful organisations will have as a minimum the following characteristics:-

- experience in the implementation and the management of major international projects;

- experience in OSI standards, applications and related products;
- experience of multi-vendor systems and environments.

The working language of each of the COSINE Projects is English.

The closing date for the receipt of completed tenders is expected to be mid-May, 1990.

To receive a copy of the Invitation to Tender for Services S2.1, S2.2 and Project P1.1, organisations should send the following information to the address below for entry into the COSINE register used for administration and management purposes:

Name of organisation, address, telephone, fax, e-mail,... and name of contact person;
Areas of primary and secondary technical expertise, plus references to other OSI projects undertaken. The register is a non-exclusive computer database containing similar references to all organisations that have expressed an interest in the COSINE Project. Collaborative ventures will be welcomed for these projects where the tenderers are able to show the benefits to be gained from the collaboration. The COSINE Project Management Unit may assist, on request, with the creation of suitable collaborations.

interim COSINE Project Management Unit
c/o RARE Secretariat
Postbus 41882
NL - 1009 DB Amsterdam
The Netherlands

Tel.: +31 20 592 5078
Fax: +31 20 592 5155

Please quote project number.

Some Facts about TEDIS
(Trade electronic data interchange systems)

The Commission's TEDIS Programme is one that is of rapidly growing importance to a wide range of everyday transactions and is responsible for a considerable speeding up in the flow of goods and services. Not everybody involved in networking and related activities may be familiar with all aspects of TEDIS. It is our intention therefore to bring a series of contributions describing this Programme in greater detail.

For centuries paper documents have formed the basis of commercial transactions. From invitations to tender to final payments, numerous documents are exchanged between trading partners.

Today, in most cases, these commercial documents are processed electronically then put in envelopes and sent by post. Prepared at the speed of light, they are dispatched over one million times more slowly.

In addition to the slowness of delivery by post, this way of doing business has other major disadvantages such as the re-encoding of data, transcription errors, data duplication, lost time, delays in processing data and low productivity. Together these mean increased costs.

Electronic data interchange (EDI) looks like the solution to the problem of the paper mountain.

Electronic data interchange, or the electronic transfer of commercial and administrative data, involves the exchange of information and messages between trading partners or public administrations via electronic means of communication. EDI is carried out either from computer to computer, through the exchange of magnetic media or via telecommunications networks.

These new possibilities for the transfer of commercial documents have considerable advantages: increased efficiency, reduced costs, improved competitiveness.

This new approach to international trade is based on:

(i) the electronic processing of commercial documents;
(ii) the use of international standards;
(iii) the integrated processing of commercial messages.

The advantages are obvious: reduction in manual processing, less time wasted due to repeated data entry, reduction - even elimination - of duplication of data, reduction of the risk of error, permanent availability (24 hours a day, seven days a week), independence of time zones, up-to-date information and lower costs.

To avoid progressing from a paper mountain to an electronic Tower of Babel, it is imperative that international standards be used. Optimal connections between all trading partners can only be achieved if everyone respects ISO standards, the European standards of the CEN and the recommendations of the United Nations with regard to international trade procedures.

In this respect, it is of paramount importance that 'EDIFACT' has been accepted as an ISO standard (ISO 9735) and a European standard (EN 29735).

Uniform treatment is also essential to avoid the formation of closed electronic networks and to assure the possibility of communication between the various sectoral networks now in the development stage. All industries must be able to exchange trade messages.

The transfer of trade messages must be effected without technical or procedural problems of any sort along the entire length of the chain of trading partners.

The Commission has therefore drawn up a Community action plan related to the electronic transfer of trade data.

The objectives of this plan - TEDIS (Trade electronic data interchange systems) - are:

(a) to avoid a proliferation of closed trade EDI systems and widespread incompatibility which this entails;

(b) to promote the creation and the establishment of trade EDI systems which meet the needs of the users, in particular small and medium - sized enterprises (SMEs):

(c) to increase the awareness of the European telematic equipment and services industry to meet users' requirements in this area:

(d) to support the common use of international and European standards, where these exist, and in particular

SOME FACTS ABOUT TEDIS
(Trade electronic data interchange systems)

the recommendations of the UN/ECE with regard to international trade procedures.

To attain these objectives, it is necessary:

First, to make use of the experience gained from previous or current activities. This applies in particular to existing policies in telecommunications and standardisation, which need to take into account the specific requirements for electronic transfer of commercial data.

Secondly, to introduce close cooperation with the manufacturing industry and the consumer industries or services. This cooperation could take the form of specific sectoral projects to which the Commission could give its support, especially to assure the promotion of aspects of general or common interest.

Thirdly, to assure constant interaction and cross-fertilisation between the horizontal actions - actions concerning common interests such as standardisation, tariffs, multilingualism, confidentiality, security, etc. necessary for the development of EDI - and the vertical actions which make up the pilot projects.

Horizontal and vertical actions

Horizontal actions are necessary for the development of the electronic transfer of commercial data. As for vertical actions - the sectoral projects -

during the course of their development they come up against horizontal problems which usually have aspects common to several vertical actions.

Each of the intersections between horizontal areas and vertical applications represents a specific problem which must be dealt with both in general (horizontal) framework and in the specific (vertical) context. Coordination during the development of vertical applications is therefore absolutely essential.

In order to assure the promotion and implementation of solutions which are as closely harmonised as possible, it will be important to provide assistance for the coherent development of vertical applications. It will also be necessary to ensure that they benefit from the experience gained in other projects.

Coordination actions

The main coordination actions consist principally in:

(i) promoting the transfer of information between sectoral projects;
(ii) encouraging mutual exchanges of information between working parties set up within the various sectoral projects: telecommunications, electronic commercial messages, legal aspects, security, confidentiality;
(iii) taking into account the specific requirements of EDI in the preparation of policies:
(a) with regard to telecommunications

- the need for international functional standards.
- harmonisation of the European networks services.
- adaptation of the telecom services to meet the requirements of users;

(b) with regard to standardisation
- the need for a directory of trade data elements, as complete as possible and kept up to date,
- the need for universal exchange syntax, for a standard structure for exchange, for messages and for segments,
- the need for standardised messages.

The development of standard messages is the object of an international procedure within the United Nations Economic Commission for Europe.

The Commission (DG XIII/D-5) is closely associated with the standards work which is a matter of great importance within TEDIS.

Legal aspects and the requirements related to security are also addressed within TEDIS.

Awareness actions

The TEDIS programme aims in addition to:

(a) increase the awareness of potential users by providing general information;

(b) inform European equipment suppliers and software producers of

SOME FACTS ABOUT TEDIS

(Trade electronic data interchange systems)

the opportunities implicit in the development of EDI systems and of the progress made so far in the area;

(c) provide specific assistance to SMEs so that they can participate actively in EDI.

As part of TEDIS, it will also be useful to study the appropriateness of promoting the successful development of software specially intended for this type of transfer.

Conclusions

The Commission is convinced of the present and future importance of EDI in the creation of the internal Community market and in the improvement of its commercial competitiveness.

TEDIS will contribute to the development of the electronic transfer of trade data by coordination and awareness-raising activities.

This will be reinforced by the closest collaboration with the European Free Trade Association countries.

Further information from:
R. WAKELING
CEC, DG XIII/D-5
200 Rue de la Loi
Brussels

BOOK REVIEW

Below is a review of:

Document Image Processing:
The Commercial Impact

The authors define document image processing (DIP) as the use of computer systems to convert paper documents to a digital form, which is then processed electronically. Processing can include storing the digitised images in a database, retrieving the images for further processing, displaying the images and manipulating them, printing or transmitting via networks, and management of the process. DIP differs from earlier document storage techniques (microfilm, optical disc) in permitting processing of the captured images and integration with other computer applications. Three DIP systems are distinguished based on size and type:

- single user systems based on stand-alone PCs and used for a single, simple operation

- departmental systems supporting up to hundreds of users for one or more activity, usually with a LAN-based architecture, but host-based architectures are also possible

- enterprise systems supporting several hundred users and multiple applications. Systems are usually main-frame based.

There is a trend towards standard components for the best price/performance ratio with PC or UNIX workstations plus plug-in boards for image processing, LANs and scanner interfaces, UNIX server(s) for communications, storage and application software, optical and magnetic disc drives, scanners and laser printers.

The authors, having defined DIP, draw attention to the growing paper problem: information held on paper is expensive to handle and store, and difficult to access rapidly; and the ever increasing paper usage is creating global environmental problems both in the consumption of forests and the disposal of paper by burning.

The advantages of DIP are presented in detail from the technical and commercial viewpoints, followed by illustrated descriptions of the techniques of document capture (image conversion and recognition technologies) and processing (storage and retrieval, document workflow, document transaction processing and document generation).

It is contended that image(s) should be considered as a data type in its own right and that its potential is the same as for any other type of alpha-numeric data, text or graphics, and that every process applicable to conventional data also applies. It follows that image processing must learn from the lessons gained in other forms of data handling. The main points here are application of open systems to simplify integration, standard architecture to allow document interchange between sys-

Document Image Processing

tems from different suppliers, multimedia databases to provide unified storage for different data types, and communication systems supporting image transfer between all potential users.Special attention is paid to the first point, open systems, which should have the following essential characteristics:

- interconnectivity across various hardware platform through strict adherence to standards throughout the operating and communications environment

- interoperability

- portability of applications to any product supporting the standard environment through compliance certification and testing.

The key issue is adoption of standards, and adherence thereto. Because this is an area of rapid development, standardisation processes should be accelerated to avoid later difficulties.

A further important area is document architecture and the authors review in detail the current state of development and specification, mentioning in particular the role played by the European Workshop on Open Systems (EWOS) and its US and Japanese counterparts, which have now come together in an umbrella organisation, PAGODA. Mention is made of work by some major suppliers who have further developed the ODA standard and who claim to provide suitable conversion interfaces, which do not always allow both direction conversion.

Reference is also made to the growing use of EDI and the role of X.400. E-Mail services should therefore also be able to support DIP in the near future, and many EDI users are already active in the DIP area.

A section of the report is devoted to discussing the need for DIP, experience reported by users of DIP and future developments of applications and resultant user requirements. A major part of the publication gives details of suppliers and users, and a brief discussion is given of market strategies and forecasts, with expansions in excess of 300% in value of goods and services predicted for the next five years.

The report also contains a glossary and bibliography and gives addresses of all suppliers and users mentioned.

Keith HALES and Judith JEFF-COATE
Ovum Ltd, 1989, 331 pp.

Further details can be obtained from
Ovum Ltd
7 Rathbone Street
London W1P 1AF
UK
  (Reviewed by The Editor)

EuroKom NEWS

GETTING CONNECTED TO EuroKom

Those who have not used EuroKom for some time, may regard it as a service for which there is only one path of access which was X.25.

You will be interested to know that you can now connect to the EuroKom host computer in a variety of ways:

- Using X.25 to the Dublin node
- Using X.25 to the mainland Europe node
- Using JANET
- Using Teleo
- Using the special CEC procedure
- Using the dial-up (voice) telephone network

Each of these is described in turn below

X.25 TO THE DUBLIN NODE

First connect to your national Packet Switched Data Network (PSDN):

Terminal Users: Follow the procedures established for your site.
Personal Computer Users: Make a telephone call to the PSDN on the telephone connected to your Personal Computer via your modem. When you hear the pitch of the tone change, switch the modem to data mode. Depending on your equipment, it may be possible to do some or all of this under software control.

Enter your NUI and password. Next, enter the international PSDN prefix code, followed by the Data Network Identification Code (DNIC) for Eir-

EuroKom News

pac, the Irish PSDN. This DNIC is 2724. Then enter the Network User Address (NUA) for EuroKom: 31001992.

For example, if connecting to the Dublin node from FR Germany, enter:

0 2724 31001992

Do not include the international prefix code, or the DNIC, when calling this node from the Republic of Ireland.

X.25 TO THE MAINLAND EUROPE NODE

The mainland node offers 16 ports for EuroKom users.

First connect to your national Packet Switched Data Network (PSDN):

Terminal Users: Follow the procedures established for your site.
Personal Computer Users: Make a telephone call to the PSDN on the telephone connected to your Personal Computer via your modem. When you hear the pitch of the tone change, switch the modem to data mode. Depending on your equipment, it may be possible to do some or all of this under software control.

Enter your NUI and password. Next, enter the international PSDN prefix code, followed by the relevant Data Network Identification Code (DNIC). This DNIC is 206. Then enter the Network User Address (NUA) for EuroKom:

2230140.

For example, if connecting to the mainland European node from FR Germany, enter:

0 206 2230140

Do not include the international prefix code, or the DNIC, when calling this node from Belgium.

JANET

The EuroKom host computer is connected via the Irish HEANET network by leased line to the JANET network. This means that users on the JANET network can access EuroKom directly from their local machine simply by using EuroKom's JANET address. The JANET address is:

0000 2300 3007

TELEO

EuroKom has special access arrangements with the Teleo network in Italy. Users in Italy who want to make use of these arrangements should contact the EuroKom Help Desk, or Teleo.
Teleo S.p.A.
Tel: +39 6 4777 1.
Fax: +39 6 4777 518

DIAL-UP (VOICE) TELEPHONE NETWORK

Users in Ireland or other users who have to wait for their X.25 connection can dial the EuroKom computer on the voice network: a 10-line hunting group is provided, with V.22bis autobauding modem

.

The telephone number of the EuroKom host computer is:

+353-1-838455
(from Britain use 0001-838455)

Terminal Users: Follow the procedures established for your site.
Personal Computer Users: Make a telephone call to the EuroKom host computer on the telephone connected to your Personal Computer via your modem. When you hear the pitch of the tone change, switch the modem to data mode. Depending on your equipment, it may be possible to do some or all of this under software control.
When the call is answered by the EuroKom host computer, you will be asked which service you require. Respond EUROKOM. When the system confirms that you are connected, press RETURN.

OTHER ACCESS PATHS

We are constantly developing new access paths to the system, and improving those we already have, to ensure that users everywhere can access the services as easily and as economically as possible, and with the best possible response time. For example: very shortly and maybe even by the time you read this, access may be possible over the international X.25 Infrastructure (IXI) service currently being put in place for the benefit of all European researchers.

WHAT YOU NEED TO USE EuroKom IES SERVICES

EuroKom IES Services are hosted on a mainframe computer based at the EuroKom office in Dublin, Ireland.

The services are delivered using the international X.25 Packet Switched Data Network, from nodes in Dublin and mainland Europe. We also provide dial-up access, as well as special access arrangements for particular groups of users.

EuroKom News

BEFORE YOU START

In order to connect to the EuroKom IES Services, you need to have signed a EuroKom User Agreement, and have been issued with EuroKom password. You need a Personal Computer or terminal which is connected in one of a variety of ways to the EuroKom host computer.

If you are using a Personal Computer, you will need the following to make the connection:

- A modem
- PSDN connection
- Communications software

If you are using a terminal which is connected to a minicomputer or mainframe, your connection to EuroKom will be through that computer. Most such computers are already equipped for data communications over X.25, and you should establish your local procedures for calling the EuroKom NUA (Network User Address).

YOUR MODEM

If you are using a stand-alone Personal Computer, you will need a modem: this is a device that translates computer-readable data into a format suitable for transmission along a telephone line. At the receiving end, the modem translates it back into computer-readable form. Modems may be stand-alone devices or built-in to your computer.

Many users connect to EuroKom using lap-top PCs with built-in modems. With such equipment, access to EuroKom is available even from home or while travelling - the only additional requirement is access to a telephone.

YOUR PSDN CONNECTION

PSDNs (Packet Switched Data Networks) offer the fastest, most reliable and most economical method of computer-to-computer communications. All Member States have at least one PSDN service in operation, controlled by the national PTT.

On registering as a PSDN user with your local PTT, you are given a Network User Identifier (NUI), by which the PSDN identifies you, and a confidential password, which controls your access to the network

.

You dial the number of the PSDN as you would make a normal telephone call. When you are connected to the PSDN, you make a datacall to a computerised service such as EuroKom by entering the appropriate Network User Address (NUA). Just as each telephone subscriber has a unique telephone number, each computer service accessible from the PSDN has a unique NUA.

COMMUNICATIONS SOFTWARE

A good communications software package will greatly simplify your access to the system, by enabling you to automate your PSDN access and EuroKom log-in procedures. With a single command, such packages will dial the PSDN, enter your NUI and password, specify the EuroKom NUA, and enter your EuroKom host computer Username and password. You will then be presented with the EuroKom IES Services menu without manual intervention.

Note, however, that you should only automate to this extent if you are confident that nobody else will attempt to access the system in your name. If others have access to your terminal, you should not include your passwords in the automated procedure.

The EuroKom Help Desk has details of the more popular communications packages, and can answer any questions you might have.

If you have any difficulty in physically connecting to EuroKom, contact your equipment supplier or your national telecommunications authority as appropriate.

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Fax: +353-1-838605

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1040 Brussels
BELGIUM
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The Text Encoding Initiative

There has been a recent renewal of interest in computational studies of large bodies of text, the aim of such investigations varying widely from lexicography and studies of language change to automatic indexing methods and statistical models for improving the performance of optical character readers. Attention in the availability of large volumes of standardised text has also been fuelled by the growing use of data interchange over networks, where reliability of transmission and compatibility of texts are important.

In the light of the non-availability of sufficiently large bodies of standardised texts, the Association for Computational Linguistics (ACL) established the Data Collection Initiative (DCI) with the aim of acquiring at least 100 million words which are to be coded in a standard form based on the Standard Generalised Markup Language (SGML - see the article on DAPHNE, IES News, Issue 24). In due time, it is hoped to incorporate annotations reflecting consensually approved linguistic features and some aspects of syntactic or semantic structure.

Both the coding and the annotations will be coordinated with the work of the Text Encoding Initiative (TEI), a collaborative project to develop standards for coding and tagging a broad range of different classes of texts to facilitate data interchange and support the language industries. Work is distributed over a wide range of European and American universities and research institutes with the costs of participants being borne by the various collaborating organisations. TEI is jointly sponsored by the ACL, the Association for Computers and the Humanities and the Association for Literary and Linguistic Computing. Funding intended primarily to cover expenses for meetings, travel, publications etc. currently comes primarily from the CEC($100 000), the Andrew Mellon Foundation ($100 000) and the (US) National Endowment for the Humanities ($200 000).

The TEI was the result of the recognition after some 30 years experience of ad-hoc text encoding schemes, that a well developed scheme for encoding texts, accepted and used widely, was a necessity. A meeting convened in November 1987 resulted in the setting up of four working groups. It was also agreed that the encoding scheme selected should conform to SGML, which has the advantages of being device independent, already defined, easy to comprehend in its basics and both comprehensive and standardised. The SGML standard allows uncoupling of the structure of a document from its presentation, makes document markup independent of the specific formatting system (i.e. offers compatibility with most text- or word-processing systems commonly used on PCs and mainframes), and permits multiple use of the same document (i.e. extraction of parts, extraction of keywords, construction of databases etc.).

A large volume of scientific, literary and philosophical text has now been assembled in machine readable and encoded form, all donated or made available by the various participants and/or publishing houses, and the four working groups are engaged on preliminary definition of their specific tasks and programmes. More than 50 scholars involved are at present creating sets of tags for marking features of texts. The tagsets, coded in the framework of SGML will provide the means of marking both physical text features and discipline specific sets to indicate the results of research on the text such as analysis of sentence syntax.

The availability of very large bodies of text with millions of words in a standardised form should prove invaluable in testing file transmission reliability and readability of encoded text on a wide range of equipment using a variety of text-handling systems. The support given by DG XIII-B shows the importance attached to this work by the information community.

For further information please contact
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Publications Received for Review

Europe's High Tech Leaders Look to the Future.
FORUM Europe, 1990

EDI Technology.
M. Gifkin (Editor)
Blenheim, 1989, 252 pp.

EDI and the Law.
I. Walden (Editor)
Blenheim, 1989, 253 pp.

AUTHOR INDEX
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EPHOS
(European Procurement Handbook for Open Systems)

A leading part in the project has been taken by officials and experts from the Administrations of France, Germany and The United Kingdom. The preparations are to be conducted in an open manner with all Member States being regularly informed of progress and being able to contribute to the document review process. A suitable communications infrastructure will be created to ensure that this document review is carried out on a broad European basis for the benefit of all Member States.

The Handbook will be available for general use in Europe by all Member States procurement agencies and by the private sector at the conclusion of the project.

Scope

The scope of the EPHOS project is the establishment of a harmonised procurement procedure for Open Systems products which can be used by all Member States in their procurement contracts in the areas of Information Technology File Transfer, Electronic Mail, and Wide Area communication. These harmonised procurement procedures will be presented in the form of a Handbook to enable public administrations to satisfy the legislation (Council Decision 87/95/EEC) in a coherent manner.

A consistent European procurement requirement for Information Technology and Telecommunications products is important for suppliers and procurers in order to stimulate a unified market which will encourage a better ability to trade in a world market. This is in line with the 1992 objectives of the Community market.

Current Status

Following a signature of a contract between the contracting partners of the Member States and the Commission for a first phase activity, the detailed work is expected to start in April 1990. The communications infrastructure will be put in place as rapidly as possible in order that the EPHOS documents will be made available from an early stage of the project. It is anticipated that this could be achieved by June 1990.

Liaison channels to all Member States are being set up through the Public Procurement Group (SOGITS-PPG).

A Project Manager and the national representatives responsible for coordination have been appointed. The first publication is scheduled for early 1991.

Further information is available from the EPHOS Project Manager:

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TO OUR READERS

IES News would welcome your contributions either in the form of articles or Letters to the Editor. Topics of particular interest are networking as seen by operators or users, electronic mail services, Open System aspects and telecommunications.

We would also like to draw your attention to the IT Press Release Bulletin Board on EuroKom. Any press notices dealing with your IT developments and considered as of European significance will be posted by us on this Bulletin Board, free of charge.

Please address your contributions to

The Editor

Data Administration - New Directions in Information Resource Management. Pergamon Infotech, London, 16-18 May 1990.

SECUNET '90. (Security in Network based Information Systems). BIOFA, Cologne, 17-18 May 1990.

Third BRITE - EURAM Technological Days. CEC, DG for Science, Research and Development, Joint Research Centre, Technical Research Director, Brussels, 21-22 May 1990.

Conformance Testing and Certification Conference. CEN/CENELEC/ETSI/CEC/EFTA, Brussels, 21-23 May 1990.

DOCUMAT '90. University of the Balearic Islands and FESABID, Mallorca, 24-25 May 1990.

1990 European Internetworking Tutorials. Advanced Computing Environments, London, 29 May - 1 June 1990

Le Document Electronique. INRIA, Chatelaillon, 11-15 June 1990

International Mobile Communications. Blenheim Online, London, 12-14 June 1990.

The EPHOS project is a European Community venture which will harmonise European procurement specifications related to Open System standards in Information Technology. At the end of the project, these harmonised specifications will be published in the form of a "European Procurement Handbook for Open Systems" for use by public sector purchasers wishing to achieve open IT systems as required by European Legislation (Descision 87/95/EEC), a Council Descision laying down a Community Telecommunications and Information Technology Standards Policy. The Project proposal follows discussions in the advisory groups to the Commission Senior Officials Group on Information Technology Standards (SOGITS) and Public Procurement Group (PPG) with leadership form the Member States of France, Germany, and The United Kingdom.

EPHOS
(European Procurement Handbook for Open Systems)

The EPHOS project will commence from the documentary base provided by Government Open Systems Interconnection Profile (GOSIP), the UK procurement work on Open Systems. It will give due priority to standardised profiles from the European standardisation bodies CEN/CENELEC/ETSI, especially where they provide harmonised implementations of the International Organisation for Standardisation (ISO) and recommendations of the International Telegraph and Telephone Consultative Committee (CCITT). Descisions taken in the European Workshop for Open Systems (EWOS) will also be taken into account. In the future, International Standardised Profiles (ISPs) at the international level will be given priority when they become available to serve as the basis for European Standards (ENs).

Object Orientation: The New Approach. Pergamon Infotech, London 18-19 June 1990.

International Summer Course on Message Handling and Telematics. Special theme: EDI for Transport Communications: Issues and Challenges. Rotterdam School of Management, Erasmus University, Bakkenis Management Consultants, PTT Telecom International The Netherlands, CEC and EEMA, Vaals, 19-22 June 1990.

First International Conference on Expert Planning Systems. IEE, Brighton 27-29 June 1990.

International Neural Network Conference. Under Patronage of the CEC, French Ministry of Foreign Affairs, INNS, Paris, 9-13 July 1990.

Telecommunications and the European Business Consumer. Financial Times, London, 11-12 July 1990.

The 7th Annual International Optical Information Systems (OIS) 1990. Meckler and Cimtech, London, 17-July 1990.