XIII

M A G A Z I N E

ISSUE NUMBER 3/92 *News Review*

Single EC telecoms licence proposed

Telecommunications value-added service providers wanting to operate in more than one EC Member State generally have to apply for more than one licence. Under a proposed Council directive launched by the Commission on 15 July, simplified and inexpensive procedures for the authorization of Europe-wide value-added telecommunications services would be set up on the basis of a single Community telecommunications licence. The proposed directive should be implemented before the end of next year.

The Commission also put forward a proposed directive on the application of Open Network Provision (ONP) to voice telephony, aimed at improving the quality of telecommunications services by setting targets and at defining the rights of users of such services. The details of this proposal were being finalized at the time of going to press.

Two Commission papers, on telecommunications tariffs and the European telecommunications equipment industry, accompanied these proposed directives. The first 'communication' to the Council points to continuing large intra-Community price disparities, which could affect the implementation of the single European market and business competitiveness. The second discusses the strengths and weaknesses of the European equipment industry, compared to the American and Japanese, and puts forward a number of proposals for improving its competitiveness.

INTERNAL MARKET

Council agrees Open Network Provision directive for leased lines

EC telecommunications ministers have adopted a directive designed to improve access to and use of leased lines provided by public telecommunications networks across the Community.

Leased lines are used by companies to establish permanent links between their offices in different cities or countries. In the new environment resulting from Community action to open up the telecommunications services market, leased lines will also increasingly be used by private companies for selling a variety of services such as electronic messaging, access to data bases, videotex or minitel services, video-telephony and video-conferencing.

The success of such services will depend significantly on the pan-European availability of leased lines, with harmonized technical characteristics, which can be accessed and used cost-effectively across the Community and adhere to common tariff principles in all Member States.

The Council's directive is based on a proposal from the Commission (adopted in February 1991) incorporating amendments from the European Parliament and Economic and Social Committee.

The directive, which applies the principles of Open Network Provision to leased lines, supports all key elements of the Commission proposal:

- Implementation of the basic principles of transparency, non-discrimination and the use of objective criteria for the conditions of access to and use of leased lines.
- Removal of all leased lines restrictions which are no longer justified.
- Establishing the right of the user to have access to a set of leased lines with harmonized technical characte-

ristics in all Member States.
- Availability of a complete set of information on leased lines which users need to have at their disposal.
- Transparency and cost-orientation of leased line tariffs and the cost accounting systems used by the telecommunications organizations.
- Clear attribution to the national regulatory authorities of the task of making sure that the rules governing access to and use of leased lines are fully implemented and respected.
- Establishment of a reconciliation procedure for the settlement of disputes.
- Encouragement to provide one-stop ordering and one-stop billing, i.e. the possibility of placing an order and paying at one location for leased lines covering several Member States.

ONP for ISDN and PSDS

The ministers also adopted two recommendations on Public Switched Data Services (PSDS) and Integrated Services Digital Networks (ISDN) for Europe, and a resolution encouraging the rapid introduction of ISDN on a trans-European basis (Euro-ISDN).

The two recommendations on the application of ONP to ISDN and to PSDS aim in particular at ensuring: the availability of a minimum set of harmonized services in all Member States; published information for users; the availability of comparable statistical information; the establishment of a common ordering procedure, one-stop ordering and one-stop billing procedures; tariff transparency, based on objective criteria and independent of the type of applications.

The adoption of the directive on the application of ONP to leased lines constitutes a significant step towards the single market in European telecommunications. It provides a new basis for the telecommunications services market in Europe in general and confers substantial regulatory power to the Commission in conjunction with the ONP Committee. The Council recommendations for the application of ONP to ISDN and public data services provide for the first time the opportunity for Europe-wide development of these two important components of the future service spectrum within a defined framework.

The decisions also mean that the major part of the work programme for ONP defined under the ONP framework programme up to 1992 has been completed. The next major steps will be in the transmission of the directive on the application of ONP to the switched telephony network and services, which now forms an important component of the telecommunications review package.

First Council discussion on HDTV action plan in Europe

The EC telecommunications ministers held a first debate on the action plan to introduce advanced television services in Europe at a meeting in Luxembourg on 5 June.

The purpose of the action plan, proposed by the Commission earlier this year, is to stimulate the rapid launch of a significant number of advanced satellite and cable television services, fully developing the new potential offered by the D2-Mac standard - in particular the improved sound and picture quality offered by the 16:9 format - and the HD-MAC standard.

The plan is one of the three separate 'pillars' of the Commission's strategy to ensure the successful introduction of European high-definition television (HDTV) in the Community. The other two consist of the directive on standards for satellite television broadcasting (adopted by the Council on 11 May) and a memorandum of understanding (MOU), signed on 15 June. This is the means by which firms in the industry will make reciprocal legally binding commitments to develop and promote services and equipment using the new standards.
To reach this objective, the Commission considers that in order to compensate industry for the effort involved in launching new services and to offset the extremely high launch costs, the Community will need to provide financial support of ECU 850 million over the five years to the end of 1996.

The first debate among the telecommunications ministers led to the following Presidency conclusions:

1. "The Council discussed the draft decision establishing an action plan for the introduction of advanced television services in Europe, submitted by the Commission following the approval of Directive 92/38/EEC, on the adoption of measures for the satellite broadcasting of television signals, recognizing the importance of the work already carried out by COREPER(1) and the Working Party of Economic Counsellors.

2. Recognizing that the draft under discussion forms an integral part of the agreement reached in December 1991, the Council invites COREPER to continue work on the draft decision with a view to its adoption in the second half of 1992.

3. As the Opinion of the European Parliament has not yet been delivered and as the framework for the financial perspective for 1993-1997 remains to be defined, the Presidency notes with satisfaction the Commission's willingness to release as rapidly as is legally possible the figure of ECU 33 million entered in the budget for 1992 in order to permit the immediate submission of projects for examination in collaboration with the Member States.

4. The President meanwhile notes the possibility of consensus being reached on the basis of the following guidelines:

- the action plan should focus on promoting services in the 16:9 format (D2-MAC or HD-MAC standard) with a view to establishing a critical mass such as to permit the development of advanced television services in Europe;
- the action plan should focus on the range of integrated operations directed towards providing a television service to the consumer rather than on the various elements in isolation;
- the memorandum of understanding, although an essential part of the strategy on the development of advanced television services in Europe, does not encompass contractual agreements, with the result that eligibility for the envisaged funding will not be dependent upon the signing of that memorandum;
- the indicative nature of the allocation of resources for the various elements of the chains of production services must facilitate the flexibility necessary for their adjustment to genuine needs, in particular in terms of programme production;
- the Member States must be guaranteed adequate participation in the administration of the programme through a committee with an appropriate status;
- the concept of dual degressivity is recognized as the general principle of the method of funding the services, with it having to be ensured, without prejudice to the criterion of quality, that there is a balanced allocation in geographical and linguistic terms which takes into account the difficulties in responding in the short term of the regions with the weakest audio-visual capacities."

(1) Committee of Permanent Representatives from the Member States.

Public procurement for services wins Council's approval

The Council of Ministers has given its final approval to the directive coordinating the procedures for public procurement for services. This should improve procedures for awarding contracts, guaranteeing transparency and non-discrimination by creating a Community framework for the acquisition of services by public authorities at national, regional or local level.

The European Community legal framework is to be applied in its totality to 'priority' services, namely maintenance and repairs, data processing, architecture and engineering, and some transport and telecommunications services. The 'non priority' services (hotels and catering, social services, etc.) will be subject to minimum transparency requirements.

The directive also provides for the Commission to re-examine the situation three years after its implementation. In addition an 'Observatory of Public Procurement' will meet regularly to monitor the progressive and balanced opening of service markets throughout the Community and examine its potential impact on non-Community third countries.

A manual for IT security evaluation

The security of information systems is one of the pervasive issues in the use of computer and communications-based services and applications on which the European Community is collaborating with IT professionals. The first step to a broad-based consensus on key issues was the preparation of an ITSEC report (Information Technology Security Evaluation Criteria - Provisional Harmonized Criteria) published in June 1991. As a further step the corresponding Information Technology Security Evaluation Manual (ITSEM) is now presented in a draft version for consultation and collaboration in its consolidation.

The ITSEM draft report is being distributed to professional organizations and experts with particular knowledge and interest in the technical aspects of ITSEC evaluation. These parties are hereby invited to comment and make contributions to help the authors prepare a document which reflects, as far as possible, the collective understanding and consensus on this matter as a contribution towards international agreements.

Readers are reminded that the present ITSEM version is an early draft with the normal imperfections that this implies.

It is recognised that certain areas of the ITSEM draft version require the assistance of further expert advice before it can be developed further. In order to allow detailed discussion, identification and resolution of the issues involved, a specific technical workshop is planned for 8 September in Brussels. This will permit those who have submitted prior detailed and substantive comments in writing to meet and discuss these matters with the authors of the ITSEM. Immediately following, on 10 September, there will be an open presentation in Brussels of the principles on which the ITSEM draft version is based and, in broad terms, the results of the technical workshop.

Copies of the draft ITSEM report and further information about the technical workshop can be obtained from:

CEC
InfoSec
Rue de la Loi, 200 (TR61 3/9)
B-1049 Brussels
Fax: +32.2.2366271
E-mail: ISCO@postman.dg13.cec.b

Green paper on postal services presented to European Parliament and EC Council

Presenting the Commission's Green Paper on postal services to the European Parliament's committee on transport and tourism, Commission vice-presidents Filippo Maria Pandolfi and Sir Leon Brittan underlined that the principle of subsidiarity has to be applied in particular to postal services. Both Commissioners insisted that, in future, national services will have to face competition and will lost parts of their monopolies. They also stressed the importance of harmonizing tariffs.

The Green Paper was also presented to EC telecommunications ministers at their meeting on 5 June.

ESPRIT NEWS

ITHACA

Ithaca presents HooDS pilot

For the purpose of application development, Ithaca (Integrated toolkit for highly advanced computer applications) provides a programming and storage environment called HooDS which supports object-oriented programming in general and persistent objects in particular.

The pilot release version of volatile HooDS includes an object-oriented programming language, Cool (Trade Mark), and appropriate basic programming tools, CoLibri (class library) and MaX (system debugger).

The HooDS pilot release 0.3/00 is free. Components can be delivered on data carrier. It can be ordered directly from the Ithaca Support Group:

Siemens Nixdorf Software Engineering GmbH, SNS 134
Gustav-Meyer -Allee 1
D-1000 Berlin 65

Tel: +49 30 4607 1391/1393
Fax: +49 30 4607 1405
Email: ithaca.bln@sni.de(USA:ithaca.bln@sni-usa.com)

Esprit basic research prompts industrial innovators

Industrial enterprises are springing up all over the Community to capitalize on concepts and prototypes developed in Esprit projects. East Coast Scientific Ltd (ECS), a British example, was recently formed to transfer the experience gained by Cambridge University's STM (scanning tunnelling microscopy) research group during their participation in the Prompt (Esprit project 3109) action to commercial instrumentation.

Prompt, which grouped AEA Technology (UK), IMEC vzw (B) and Cambridge University, developed a research-scale linear cluster tool for ultra-high vacuum (UHV) semiconductor processing. The ion-beam scattering, residual gas analysis and STM facilities fitted allow all stages of the oxidation step to be controlled.

Building on the know-how developed, ECS is specializing in the development of one-off instruments for unusual applications, and providing a service to other firms that lack the experience needed to develop novel instrumentation quickly and at a reasonable cost. An example is the design of a combined scanning electron (SEM)/STM instrument for retro-fitting to an existing MBE system manufactured by Vacuum Generators. This will be used for atomic resolution studies of thin-film growth mechanisms. ECS's activities are a fine example of Esprit basic research's contribution to the industrial innovation process and to ensu-ring, through training and work experience, the future availability of high-calibre scientists and engineers: the managing director of ECS participated in Prompt as a graduate student.

Contact
Dr M. P. Murrell
ECS Ltd
14 Bishop's Road
Trumpington
Cambridge
UK - CB2 2NH
Tel: +44 223-841-163
Fax: +44 223-841-163

Esprit basic research visits Prague

Esprit's basic research division was actively involved in the 12th General Conference of the Condensed Matter Division of the European Physical Society held from 6-9 April in Prague, Czechoslovakia.

First, 13 basic research actions were presented. They covered: nanoelectronics (actions 3042, 3043, 3133); IT organics (actions 3121, 3200, 3314); optics and optical computing (actions 3186, 3199, 3260); optoelectronics (action 3174); controlled semiconductor processing (actions 3177, 3109) and the VLSI Design Training Action - Eurochip (action 3700).

The early results of the projects were discussed with some 500 participants and more than 100 students (in physics and electronics) from the Karls-University, Prague. The exhibition of the VLSI Design Training Action - Eurochip attracted a great deal of interest. Here, participating Czechoslovakian students explained their training to the visitors.

The conference also included an Esprit basic research workshop in nanoelectronics, presenting the main results of the actions 3042, 3043 and 3133.

In a keynote speech G. Metakides, head of the basic research unit, addres-sed the subject of "Science in a changing Europe". The speech is included in the proceedings which will be published in a forthcoming issue of *Physica Scripta*.

Contact:

Ingo Hussla
CEC DGXIII
B 31 04/78
200 Rue de la loi - 1049 Brussels
Tel: +32.2.2368074
Fax: +32.2.2368397

Esprit guide for VLSI Design Training Action

A brochure, "Made to Measure Microchips - Training Designers", tracing the development of the Esprit VLSI Design Training Action, has just been published by DG XIII. In 16 pages of text and illustrations, the brochure describes the action from conception to the present mature operation which supports academic VLSI design training throughout the Community.

It also explains the infrastructure which provides the service to the academic institutions and evolves the strategy to ensure that this service keeps pace with the developing technology.

For those wishing to know more about integrated circuits there is an explanation of how a chip is designed and made. The brochure is available on request.

Contact :

Maria Ferreira
CEC DG XIII
BU31 04/02
200 Rue de la loi - 1049 Brussels
Tel : +32 2 2368072
Fax : +32 2 2368397

Nanoelectronics Symposium at Esprit Conference 1992

As a special event organized by Esprit basic research within the Esprit Conference 1992, to be held from 23-27 November, a Nanoelectronics Symposium will take place on 24-25 November in the Palais de Congrès, Brussels, Room Lippens. The symposium will consist out of 18 invited lectures from leading world scientists and a scientific poster session of related Esprit projects.

The main themes of the lectures will be optical phenomena, single electronics, quantum transport and ultrafast phenomena.

Invited speakers:
K. Asada, M. Asakawa, S. Beaumont, J.K. Gimzewski, K. Harmans, M. Heiblum, K.K. Likharev, E. Kapon, K.P. Kotthaus, E. Kollberg, K. Leo, J.Y. Marzin, J.E. Mooij, M.H. Pilkuhn, P.M. Petroff, K. Ploog, F.K. Reinhart, H. van Houten, M. van Rossum, C. Weisbuch.
Symposium chairmen:
S. Beaumont, U. Glasgow, G. Borghs, IMEC, A. Forchel, U. Würzburg
Programme committee:
S. Beaumont, U. Glasgow, G. Borghs,

IMEC, A. Broers, U. Cambridge, A. Forchel, U. Würzburg, M. Pilkuhn, U. Stuttgart, H. Launois (LM2/CNRS), M. von Rossum, IMEC.
Poster Chairman:
H. Launois (LM2/CNRS)

Extended abstracts of all contributions will be available at the symposium and are included in the registration fee.
Full contributions of the lectures as well as the abstracts of the posters will be published in the Basic Research Series (Springer Verlag) within three months.

Contact:

ECCO European Congress
Consultants and Organizers
Rue Vilain XIIII, 17a
Brussels
Tel: +32 2 6478780
Fax: +32 2 6406697

DIAS project moves into prototype testing phase

The first prototype integrated control maintenance and technical management system for the continuous process industry has been implemented. In January the first systems, developed with DIAS, were introduced to three industrial sites for further experimentation and demonstration studies. The DIAS project (Distributed Intelligent Actuators and Sensors) was launched in April 1989, by a consortium of nine companies from six EC countries. The control system part of the new system will perform new data validation functions in addition to the conventional control reflex processing. These new functions will use process models to provide technological operational and functional validation. The conventional control-operator interface (COI) will be complemented with a new man-machine interface (MMI) dedicated to the new functions of intelligent actuators and sensors.

In addition the maintenance system will perform computerized monitoring of process parameters, based on time and activity criteria. This will support detection, location and identification of faults, setting of maintenance schedules and prediction of performance degradation.

Within the control maintenance and (technical) management system, it will be possible to implement real time technical management aids. These include: cost analysis; accumulated real time operational data, about the availability of instrumentation and other components as well as other items of plant and equipment; failure statistics for management, including time and cycles between failure, type of failure and impact on the environment; and management of maintenance actions.

Intelligent actuators and sensors will make it possible to improve the reliability of measurement or state information, based on technological validation,

where the performance of hardware and software will be verified continuously.

The Fieldbus will be an open communication medium allowing exchange of data between the "producing" and "consuming" devices. This type of flexible architecture will support independent evolution of input/output and processing units. Installation costs will be kept to a minimum by the connection of all field devices to a "multi-point line".

Contact:

Willy Van Puymbroeck
CEC DGXIII
BU31 01/85
200 Rue de la Loi
1049 Brussels
Tel: +32.2.2368138

Esprit technology offers boost to car industry

Esprit has just announced the successful completion of project 2277. This aimed to develop CIM for multi-supplier operations in order to improve the competitiveness of the European automotive industry. It concentrated on the application and development of methods, tools, interfaces and architectures to facilitate the exchange of technical and commercial data between independent organizations. The project started in December 1988 and ended in February 1992.

Unlike the Japanese automotive industry, where vehicle manufacturers and their major suppliers are members of the same 'family' and are in close geographical, proximity, the European equivalent comprises distance and independent companies, within supply and distribution chains, each with their own objectives. The project took account of existing system environments, emerging international standards and advanced concepts for production logistics in order to allow a smooth migration towards the CMSO solutions.
Expected benefits include a reduction of the product introduction time, shorter delivery lead times, reduced costs, lower stocks and improved product availability.

The results of this project can be used in a variety of areas, including developing new hardware and software products, strategic guidance, offering technical guidance for implementation, training and education, and input to standards and other technical and business organizations.
Although early development will be concentrated at project partner sites in the automotive industry, it is expected that many results will be applicable in other supply-based industries. The software systems (CMSO-Box) developed to handle specific business processes are already used at industrial partner sites.

The most important results achieved are a set of software packages: ILPW - Integral Logistics Planning Workstations, a PC-based planning workstation with a graphical user interface (for vendor rating, transportation and goods receiving planning, material flow planning and short term production planning); CMSO-Box for Manufacturing Logistics, a modular multi-layer EDI server (for transmission of standard EDI messages and customer order processing); CMSO-Box for Product Development, a second modular multi-layer EDI server (for transparent CAD, CAQ, BoM and

other engineering data exchange and the handling of inter-organizational engineering processes); Logistics Chain Simulator; Supply Chain Methodology, a methodology to improve the performance of the network; Integrated EDI Architecture and Layer Shell System, a reference architecture defining the interfact skeleton and handling of a CMSO-Box with a software realisation called Layer Shell System; Natural Language Interface and Engineering Expert System, an approach to show the future of diagnosis and failure analysis systems in the repair shop.

Contacts:

Prof. Dr. Hans-Jochen Schneider
Michael Matthiesen
ACTIS in Stuttgart GMBH
Waldburgstrasse 17-19
D-7000 Stuttgart 80
Tel: +49.71173790
Fax: +49.71173791/00

Willy Van Puymbroeck
CEC DGXIII
BU31 01/85
200 rue de la Loi
1049 Brussels
Tel: 32.2.2368138

Y-Net X.400 E-mail service enlarges connectivity

A new service point, located in Groningen and operated by SURFnet, has opened in the Netherlands, enlarging Y-Net's connectivity to the pan-European research community.
In each country the Y-Net service point is interconnected to an Administration Service Management Domain (ADMD) in order to provide connectivity with the public service users. The ADMDs connected are the RTT in Belgium, DBP in Germany, ATLAS in France, GOLD 400 in the United Kingdom, MASTER 400 in Italy and DG400 in Denmark.
The Spanish ADMD (Mensatex) will be connected in September and the Portuguese ADMD will be available as soon as their public service has been declared open.
Y-Net offers its users an open communication environment where each service point is connected to the national

Cosine 'well-known entry point', allowing Y-Net users to exchange information with the users of the Community. It offers a gateway service, located in France, which allows communication between the X.400 Y-Net community and EUnet (European Unix Mail network).
The popularity of Y-Net continues to grow and there are now some 700 subscribers using the service daily. A questionnaire has been sent to all users so that a better understanding of their requirements can be obtained, to enhance the service. All those who are interested in the results of this questionnaire investigation can contact the YMU.
All Y-Net users should have their copy of the White Pages, a directory including all Y-Net users' E-Mail addresses together with guidelines for communicating with researchers via their E-

Mail address. Those who have not yet received it can request it directly from the YMU.

Contact:

TELEO/YMU
Rue du Trone 12
B-1050 Brussels
Tel: +32 2 5143132
Fax: +32 2 5117320
E-Mail: C=BE;A=RTT;P=Y-NET;0=SP1;S=YMU

Success at 3rd Joint European Networking Conference

The 3rd Joint European Networking Conference took place in the Innsbruck Kongresshaus (Austria) from 11-13 May, attended by more than 350 participants from 29 countries. More than 40 presentations, a forum on eastern Europe, a demonstration evening and a wide range of informal meetings were arranged during the four-day meeting. A large number of subjects were tackled, varying from purely technical to user-oriented activities. In his closing address, Kees Neggers, the new RARE President, stressed the importance for European networking to move ahead in a geographical as well as an organizational sense. He referred to the short-term need to create an operational unit for European research networking services, the globalization of the Internet, closer cooperation between east and west Europe, and the need to examine closely the way existing funding mechanisms operate. The city of Innsbruck as well as the Kongresshaus turned out to be excellent hosts, adding to the success of the conference.

RARE membershiprises to 39 national networks

Three new members have jointed RARE, boosting the ranks to 39. During its last meeting in Innsbruck the RARE Board accepted the national network of Slovenia (ARNES) as a full national member. UNINET-ZA (South Africa) was accepted as new associate national member. An application from CARNet - the academic network of Croatia - will be treated at the next board meeting. YUNAC, the network of former Yugoslavia, changed its membership status from full national member to international member.

Further RARE/EARN collaboration

The task force on closer operation between RARE and EARN reported to the RARE Board in Innsbruck. It will continue its study to develop complementary technical and educational programmes. It was agreed that RARE's activities will lie mostly in the technical area while EARN will concentrate more on educational activities.

New publications

The first RARE technical report, *User Support and Information Services in the RARE Community, A Status Report* was presented to participants of the 3rd Joint European Networking Conference in Innsbruck. The report gives an overview of user support facilities and information services provided by RARE's members. Paper copies can be obtained from the RARE Secretariat or electronically from the RARE document server (by anonymous FTP: <raredoc.rare.nl> under the directory: :rare/RTR). RARE aims to make a wider audience aware of the results of technical activities carried out by its task forces and working groups. RARE's annual report for 1991 is now available from the secretariat.

EDI for libraries and booksellers

Under the telematic systems R&D programme for libraries, the EC is funding the EDILIBE (Electronic Data Interchange for Libraries and Booksellers in Europe) project, the first phase of which is now complete. Targeted at producing Edifact-based standards for the European library sector, EDILIBE 1 has produced a public tool for discussion and consensus-building in the shape of format drafts for electronic data interchange between libraries and the book trade. The specific format drafts are Edifact subsets for the four message types: quotes, order responses and invoices.

Cooperation between EDILIBE and DGXIII's EDI programme, Tedis, has become possible through the appointment of Book Industry Communication (BIC) as a contractor under Tedis to coordinate European book sector EDI activities. BIC will provide the secretariat for a new pan-European book sector EDI group which will develop standards based on the UN-sponsored Edifact format. Work will include promoting EDI and its potential within the book trade and developing the Edifact-based message formats.

The project/programme link is represented by the adoption by BIC of the EDILIBE public deliverable's output as input to their EDI-promoting activities under Tedis. Collaboration involves technical work related to convergence and developing message formats available from the principal contractor of the EDILIBE project, the Frankfurt Stadt und Universitätsbibliothek.

Basic research video

A 9-minute video has been produced describing the Esprit basic research activities at EC'91 for lending to interested institutes.

Contact:
Ingo Hussla
CEC DGXIII
BU31 04/78
2OO, rue de la Loi
1049 Bruxelles
Tel: +32 2.2368074
Fax: +32.2.2368397

Contact:

Marghot Wiesner or Berndt Dugall
Stadt und Universitätsbibliothek
Bockenheimer Landstrasse 134-138
D-6000 Frankfurt/Main
Tel: +49 69 21239 256
Fax: +49 69 21239 404

Brian Green or Elspeth Hyams
Book Industry Communication
39-41 North Road
London N7 9DP
Tel: +44 71 607 0021
Fax: +44 71 607 0415

Cosine announces shortlist for pan-European X.25 backbone production service

The Eureka project Cosine (Cooperation for Open Systems Interconnection Networking in Europe) has shortlisted three organizations to supply the IXI (International X.25 Infrastructure) production service. The IXI pilot service has been provided by PTT Telecom of the Netherlands since April 1990. The Commission of the European Communities runs the Pilot IXI Service contract acting on behalf of Cosine, and is contributing the major share of funds from the budget of the Esprit programme. The Pilot IXI Service has been providing a packet-switched data communications service operating at 64 Kbit/s between private national research/academic networks and several PSPDNs throughout the 18 European countries participating in Cosine. There has been significant monthly growth in the use of the pilot IXI service, which is available to academic, governmental and industrial researchers in all EC and most EFTA countries.

Cosine has been preparing a very major upgrade for the production service, which will increase capacity more than 20 times. A 2 Mbit/s service will mean faster response times and even greater capacity for the individual user. There are also plans to extend the number of protocols supported. Following the issue of an invitation to tender and an extensive technical and commercial evaluation process, contract negotiations have now reached an advanced stage with Transpac of France, Interpac Belgium and PTT Telecom of the Netherlands. The contract for the service, valued at more than ECU 3 million a year over three years, is due to be signed in early July. The service will be managed initially by the Cosine Project Management Unit. Following the completion of the Cosine project in 1993, the management of the service will be assumed by an operational unit, the structure and location of which is currently under discussion.

Contact:

Tim Oake
Market Development Manager
COSINE Project Management Unit
c/o RARE Secretariat
Singel 466-468
1017 AW Amsterdam
The Netherlands
Tel: +31 20 639 1311
Fax: +31 20 639 3289
E-mail: oake@rare.nl

Telematique: Community initiative for Greece

The Commission has adopted the Telematique programme for Greece. The scheme, which runs until the end of 1992, will receive ECU 32.5 million (Drs 7.8 billion) in Community assistance from the European Regional Development Fund, representing over 50% of the total cost of the ECU 60 million programme.

Presenting the programme, EC regional policy commissioner Bruce Millan said the use of advanced telecommunications was essential if companies were to take advantage of the single market. He stressed that telecommunications are a priority for Community assistance in disadvantaged regions, adding that Community aid worth more than ECU 400 million was already being employed in Greece for measures in this field.

The new programme aims to extend the measures carried out under the Community's Star initiative in telecommunications for regional development. It aims to turn existing infrastructure into the communications networks needed to carry out the measures planned to improve advanced telecommunications services. In addition it will encourage SMEs to introduce and use advanced telecommunications services and introduce data-transmission applications to agencies working in the public sector.

To achieve these objectives, the Telematique programme in Greece has been divided into three sub-programmes:
- Improvements to infrastructure necessary to complete the projects in the programme.
- Measures to develop SMEs through the use of advanced telecommunications services in the fields of tourism, transport, industry, services, health, training and culture.
- Data-transmission applications in the public sector.

Thesauri database reaches market maturity

Thesauri is an analytical inventory of all current structured vocabularies which have appeared in at least one of the official languages of the European Communities. In addition to thesauri from the EC Member States, those from the USA and Canada are also well represented.
The inventory comprises both bibliographical data and details on the structure of the different thesauri available (subject coverage, term relationships, display, implementation, etc.).

Thesauri can help you to choose an appropriate document language, avoiding duplicating work in the standardization of different thesauri in the same subject fields.
The updating of this database has been contracted to Eurobrokers in Luxembourg. The database is currently available on the Commission's host, ECHO, but will shortly be transferred to Eurobases as it has reached market maturity.

Contact:

J.M. Leick
CEC DGXIII
L-2920 Luxembourg
Tel: +352 4301 4595
Fax: +352 4301 2354

Who's who at Delta

'Who's who in European Learning Technology R&D', a document listing 'who does what, where and why' in the Delta action, will be available from July from OTE, 133 rue de Sèvres, 75006 Paris, Tel. +33 1 40 56 92 12.

Workshop on design, production and simulation

A workshop covering the design and production of computer-based training and open and distance learning courses using multimedia and advanced telecommunications will take place in Barcelona in spring 1993. It aims to bring together Delta projects with national specialists in the field. Further details are available from Guy Weets at the Delta Central Office, Commission of the European Communities, DGXIII/R4, rue de la Loi (TR61), 1049 Brussels.

'The state of flexible and distance learning today'

Written by Delta staff member Lieve Van den Brande, this book offers a comprehensive view of flexible and distance learning in practice throughout the world, looking at trends and future perspectives. The situation in Europe and the work being done under the auspices of the European Community, and its relation to the position elsewhere in the world, is a major feature of the book. It pays particular attention to state-of-the-art training technologies including on-the-job training, just-in-time training and vocational training. The book will be published shortly by John Wiley & Sons Ltd, Baffins Lane, Chichester, PO19 IUD, UK, tel. +44 243 779 777. Details also available directly from the Delta Central Office (see above).

Star programme in Spain

The Spanish Star programme will end soon. The final projects were approved last autumn and its implementation should be completed by October.

Acciones del programa STAR - España is a review of the accumulated experiences of Star in Spain.

This book was edited by the Spanish directorate-general for telecommunications (DGTel), which has been responsible for the implementation of the programme. Its contents include the different projects in various areas, such as advanced telecommunications services stimulation including: feasibility studies, promotion and demonstration, audiovisual services (videoconference, etc.), telematic services (videotex, data bases, etc.), transactional services (EDI, etc.), teleworking (tele-CAD/CAM, etc.), and, multiservices (Telecommunications Service Centres, etc.). In the area of basic equipment, it examines both laboratories and infrastructures.

As the programme has not yet finished, the list of the projects described is not exhaustive. This book is expected to be updated in the near future.

Contact:

O. Pascal
CEC-DGXIII
BU29 04/84
200 Rue de la Loi
1049 Bruxelles
Tel: +32 2 2368212

Innovation in the Nineties

DGXIII, the Commission's directorate-general for telecommunications, information industries and innovation originated a high-level conference on `Innovation in the Nineties' in Brussels in June. The conference brought together policy-makers, industrialists and academics from throughout the Community to discuss all aspects of the innovation process, policies and priorities for industrial innovation and technology transfer in Europe to the end of the decade. There was a strong focus on eastern Europe.

This two-day conference highlighted the Commission's commitment to the concept of increased innovation as a means of promoting better levels of competitiveness in European industry.

Through Sprint (Strategic programme for innovation and technology transfer), DG XIII has successfully pioneered a series of practical projects aimed at increasing innovation and technology transfer in Member States.

Speakers at the conference included: Commission vice-president F.M. Pandolfi; the Premier of the state of Brandenburg, M. Stolpe; Portuguese industry minister L. Mira Armal; M. Carpentier, director-general, DGXIII; Y. Farge of Pechiney, France; and many other leading figures from European industry.

Contact:

Robin Miège
CEC DGXIII
L-2920 Luxembourg
Tel: +352 4301 4180
Fax: +352 4301 4544

Workshop on bone marrow and organ transplantation

Under the Community's programme for telematic systems in health care (AIM), a major workshop was organized earlier this year addressing problems concerning telematics for bone marrow and organ transplantation, bringing together the leading European figures in the domain, including Nobel prize winner Professor Dausset. Issues addressed by speakers covered specific technical subjects as well as policy options and ethical questions.

A limited number of issues of the conference proceedings are still available and can be obtained from:

J. Rosenbaum
CEC DGXIII
BU24 -01/21
200 Rue de la Loi
1049 Bruxelles
Tel: +32.2.2369028
Fax: +32.2.2369037

9

Value at 4th Brite/Euram Conference in Seville

More than 800 industrialists, academics, researchers and policy makers were present in Seville on 25-27 May for the 4th Brite/Euram Conference, organized in collaboration with Value. The opening session of the conference, held in association with the Universal Exposition 1992, was introduced by Commission Vice-President Filippo Maria Pandolfi. Other speakers included Mr Valente de Oliveira, the President of the EC Council of Research Ministers, D. Javier Solana, Spanish Minister for Education and Science, and C. Desama, President of the European Parliament's Research Committee.

Mr Pandolfi underlined the special importance of this event in the evolution of the Community's thinking on the needs and challenges of industrial research in Europe. 'Mastering innovation is the key to European industrial competitiveness,' he said. 'The Achilles heel of Europeans is their difficulty in transforming their scientific and technological advances into industrial innovations, and these innovations into commercial success' - hence the presence of the Value programme.

Referring to the special role in innovation played by small and medium-sized enterprises, Mr Pandolfi emphasized the importance of a programme such as Brite /Euram. 'Of all the Community research programmes, Brite/Euram is the one which has the most important impact on SMEs. This impact is clear to see in certain cases. In others it is still a potential impact. This potentially needs to be converted into reality.'

ECU 100 m for SMEs?

To help SMEs overcome the problems related to the time lag between getting research results and actually using them on the market, Mr Pandolfi proposes to create a kind of European venture capital fund. Such a fund, with about ECU 100 million would be the source of soft loans to help SMEs through the stage separating research from the market.

Stressing the need in industrial research for an integrated approach which takes account of the whole cycle of innovation, Mr Pandolfi was very pleased with the results obtained by Brite/Euram as regards encouraging the practical development of advanced techniques for manufacturing and processing. "Information technologies," he said "are not an end in themselves. They only have meaning and use when they are inserted into the industrial or administrative fabric and applied to improvements in the production of goods and services. To achieve this, it is essential that we bring together the producers of these technologies and the users. This is the key to improvements in productivity.

"Brite/Euram has always offered and will continue to offer a particularly important framework enabling this to happen. A substantial proportion of the activities of the programme are concerned with the use and adaption of the most recent developments in information technologies. Amongst these, of course, are developments obtained within the Esprit programme, in particular the part devoted to computer integrated manufacturing (CIM).

"The first Esprit projects have now reached the state of exploitation of their results. For the application of these to the needs of European manufacturing industry, Brite/Euram is without doubt the best tool." This is also a reason for the strong collaboration between Brite/Euram and Value, with activities such as exploitation of finished projects, seminars on project management, training on exploitation steps, common information days and events such as the conference in Seville.

During the conference, 12 of the 200 completed projects were presented in detail. These illustrated their innovative character and the real possibility of transferring their results into other industrial sectors or their potential impact on the environment. These 200 projects and their results have been comprehensively analysed by a group of nine consulting companies under the supervision of the Brite/Euram and Value programmes. The conclusions of this study were available on the stands of both programmes.

During the final session, there was a public presentation of the conclusions of three workshops which took place during the conference in parallel with the plenary sessions. These workshops brought together experts of different backgrounds and origins including many industrial sectors.

- *Future of technological research*: the experts proposed that long-term strategies be implemented based on real and well-defined industrial needs as identified by industry. They also underlined the necessity for consortia to exploit rapidly and more systematically the results obtained in the context of R&D projects.

- *Transferring results:* in this field, the panel members recommended that the Commission conceive and implement, in a 'personalized' way, the means to help SMEs acquire new technologies and transfer the results to their research.

- *Technology and society:* the experts expressed the wish that from now on the impact on society of the results of industrial R&D, their environmental consequences and their effects in terms of well-being, health, quality of life, etc. be systematically taken into account at all stages of the carrying-out of a project (selection, implementation, follow up).

Vips-Agency

Vips-Agency, originated by DGXIII (Luxembourg), is a pilot project aimed at scientific journalists in Europe. Its main objective is to narrow the gap between Community research and national journalists in all Member States.

Beginning in 1992, Mediascience International, operating from Brussels, now regularly supplies journalists with information from the Community RTD programmes. It is the aim of the team to serve as a guide, source of and classifier of RTD news from Europe.

Around 200 scientific journalists are served on a regular basis. Over 40 separate information sheets currently covering a wide range of subjects have already been mailed.

Contact:

Peter Tomaszewski
CEC DGXIII
JMO B4-80
L-2920 Luxembourg
Tel: +352 4301 3798
Fax: +352 4301 2084

Dissemination of Community RTD results

Following a call for proposals, 35 projects have been accepted for EC support to help disseminate results from Community research and technology development (RTD) programmes.

The call aimed at the implementation of line 1.4 of subprogramme I of the Value programme (1989-1992) under the second RTD Framework Programme adopted on 20 June 1989 (OJ L 200 of 13.7.1989). Line 1.4 concerns the dissemination of results which need not be protected, via: publications (books, reports, summaries, newsletters, etc.); organization of, and participation in, seminars, conferences, exhibitions, etc; organization of targeted dissemination activities; transfer of knowledge by (short term) secondment of research workers participating in Community RTD pro-

jects; collaboration with, and assistance to, organizations in the Member States in the setting up of mechanisms of dissemination; electronic means such as databases and associated services.

Following the publication of the call the Commission received 169 proposals for a total amount of requested funding of ECU 15 million: 10 from Germany, 51 from the United Kingdom, 28 from France, 18 from Greece, 14 from Belgium, 3 from Denmark, 6 from the Netherlands, 8 from Italy, 18 from Spain, 7 from Portugal, 4 from Ireland, 2 from non-Member States (by origin of main contractor). An evaluation committee of independent experts submitted a list of 45 proposals to the Commission for funding. In a first phase, 13 proposals were selected from these by the

Commission, representing a total Value contribution of ECU 431,000.

The selection of the 13 proposals was arrived at by taking into account the available finance of approximately ECU 500,000, so that only comparatively small projects for which the required finance was less than ECU 50,000 where taken into consideration. At the same time, an attempt was made to achieve a good balance of the dissemination methods to be used, the RTD programmes to be covered, the intended target audiences and the geographical, coverage.

A further screening of the remaining 32 proposals led to the funding of 22 other proposals for a total amount of about ECU 1.2 million.

1992 Language Engineering Directory on ECHO

The 1992 Language Engineering Directory is a reference guide to language technology companies and projects available worldwide. The information it contains is the result of three years' surveying of the world's information technology markets for computer hardware, software and services which can be broadly classified as language-integrated products and services.
The directory provides information supplied by companies on 600 businesses and 1100 products, giving a good overview of the supply side of the market.
The directory is a unique reference tool for research institutes keen to find new research partners, companies looking for development partners or distributors for their products, translation

agencies and in-house translation departments with an interest in using information technology to increase productivity, terminology organizations interested in the latest terminology developments in the field, multilingual information brokers or online database providers, multilingual publishing companies, technical authoring agencies or departments and news agencies. In short, it is useful to anyone concerned with enhancing productivity and profitability in the process of creating documents.
Classification is by company and product groups. The companies section contains information on businesses and organizations actively involved in the language engineering sector, while the products section includes computer

hardware, software and services which process language-related problems.
By autumn 1992, the directory will be accessible online, free of charge, on the Commission's host, ECHO, where it is implemented on an experimental basis. It is also available in printed form at cost.

Contact:

J.M. Leick
CEC DGXIII
L-2920 Luxembourg
Tel: +352 4301 4595
Fax: +352 4301 2354

Transport ministers study Drive project demonstrations

At the request of the Greek transport minister, Mr Gelestathis, the Commission (DGXIII) organized a special presentation of seven Drive projects at the European Conference of Ministers of Transport (ECMT) in Athens on 10-12 June.
Projects on display covered all major

action lines of the Drive programme, from communication research to freight management, public transport, automatic detection of road incidents and major federated urban projects involving some 10 major cities from different parts of Europe.

Practically all the ministers and delegations attending the ECMT meeting spent substantial time at the demonstrations. Project demonstrators and the Commission staff present were congratulated for their commitment to the programme and for the quality of the demonstrations.

Max proves popular at EXPO '92

Max, the talking robot developed under the EC's Impact (Information market policy actions) programme and implemented by ECHO, the European Commission Host Organization, has drawn a high level of interest during EXPO '92 in Seville. The organizers of this great exhibition were sufficiently impressed by Max to invite DGXIII to set up a demonstration in the European Community pavilion for the duration of the show.

This involved adding Spanish as a fourth language to Max's existing capability of responding to questions in English, French and German. Max is the culmination of a research project involving speech recognition and speech output. The aim has been to develop a useful information service accessible by almost anyone, with the minimum requirement of a telephone.

Evidence of Max's appeal in Seville is clear from statistics compiled during the early months of EXPO '92. At the end of the first six weeks, a total of more than 8000 visitors had 'talked' to Max, 50% of them in Spanish.

In addition to receiving details from Max about the EC pavilion, EC institutions and programmes, Community citizenship, ECU exchange rates and more, EXPO visitors are being invited to take part in a quiz based on this information.

Contact:

ECHO
P.O. Box 2372
L-1023 Luxembourg
Tel: +352 3498 1200
Fax: +352 3498 1234

IMO/EIIA electronic information services industry survey

The Information Market Observatory (IMP), in collaboration with the European Information Industry Association (EIIA), has finalized the 'Coordinated Survey of Professional Hosts and Information Providers in the European Communities 1989/90'. The survey measures the contribution to the European economy of publicly available information products and services for professional users, operated by organizations resident in the EC.

National associations and research centres in different Member States collaborated using a common questionnaire and agreed methodological guidelines based on the experience of a previous pilot survey covering the year 1988. The response rate to the 1989/90 survey was significantly higher than the previous one and the margin of error involved in estimating contributions for the non-respondents is therefore much lower.

One of the interesting findings relates to the rate of growth of the European electronic information services industry. Previous industry surveys have consistently referred to growth in the order of 20-30%. This new survey indicates that in 1990 turnover grew by 12.5% to reach ECU 3.15 million. This lower rate is attributed to the approaching maturity of some segments of the industry, as well as the effects of economic recession in the United Kingdom. Similar lower rates of growth have been experienced in the USA and Japan.

Compared with the 1988 survey which focused on on-line services, the 1989/90 survey examined information media other than on-line. This is important since CD-ROM, which two years ago was very much in its infancy, has now become almost an industry in its own right. Nevertheless, the revenue from on-line services still accounts for some 90% of the total. The survey also examines employment, turnover by subject and the geographical distribution of revenues.

Activities of information providers - the owners of intellectual property disseminated in electronic form - were also investigated. However, given that many organizations are both database hosts and providers, only those providers which are not engaged directly in dissemination were included in this part of the survey. The information obtained in this sector covers the same categories as for the hosts.

A third survey covering 1991 is planned. This will provide the information services industry with an increasingly authoritative base of figures and industry information.

Contact:

Lennart Scharff
EIIA
Luxembourg
Tel: +352 34981420
Fax: +352 34981234

National awareness partners help to spread the message

Promoting 'information literacy' is part of action line 3 under the Impact 2 programme, which runs from 1991-1995 and aims to establish an internal market for electronic information services. This includes creating an information awareness network comprising national awareness partners in all Member States, who will organize promotional campaigns in cooperation with a central support team.

This aims to spread awareness of electronic information services among increasing numbers of potential end-users. The national awareness campaigns will be directed towards major target groups such as small and medium-sized enterprises, libraries and universities. Emphasis will be placed on decentralization, which will help the campaigns to address more effectively the specific needs of individual Member States as well as the target groups. The project's early stages will be guided by the Commission, mainly through coordination of the network, provision of awareness material, supply of up-to-date information and monitoring of the individual campaigns. The partners should ultimately be capable of continuing awareness activities independently and beyond the time scale of the Impact programme.

The first group of national awareness partners has been selected and the programme of activities will begin in the second half of 1992.

Contact:

Axel Szauer
CEC DGXIII
L-2920 Luxembourg
Tel: +352 4301 3526
Fax: +352 4301 2847

Impact 1 pilot and demonstration projects

Motor industry focus for TECDOC project

The three-year TECDOC project, partly funded by the EC under the Impact 1 programme, was launched at the end of 1989. Led by Bertelsmann AG's printing and manufacturing division, it has involved a consortium of European companies grouping Bureau Marcel van Dijk (Belgium), Hatfield Polytechnic (British Library), TMS Teilemark Informationsystem GmbH and Volkswagen (Germany).

TECDOC is an image bank project for technical information in the car manufacturing industry aimed at small and medium-sized service companies (repair shops, sales offices, garages).

The service is based on portable information devices with integrated CD-ROM drives and multilingual technical information (text, image, data). The project concentrates on developing user-friendly application software and using standard generalized mark-up language (SGML) to structure full text in standardized formats. So far 20-30 test sites have already been equipped with about 60 devices.

TECDOC's prime target is to develop synergy between the manufacturing and information industries for innovative information technology, and to create a multinational showcase for further applications of end-user information services in blue- and white-collar environments. The application is designed for information access on screens, combined with laser printout capabilities. The search and access mechanism follows a problem-orienta-

ted approach more attractive to users than existing information material such as catalogues, loose-leaf booklets and microfiches. The initial publication of a CD-ROM project with technical documentation in different languages will be followed by regular monthly updates.

By introducing the CD-ROM systems to dealers and repair shops, vehicle manufacturers will not only help to improve service quality but may also expand their own position in the market by closer cooperation with garages. Dealers and repair shops should be able to achieve time and cost savings together with higher service quality and an improved image.

Image bank project '500 años despues': an insight into Latin America

The Impact 1 programme has also made a contribution to the image bank project '500 años despues' ("500 years after"), supported by the Spanish ministries of industry and energy, and foreign affairs. From 1989, the Sociedad Estatal Quinto Centenario has worked together with the Spanish ministry of education and science, the Commissao Nacional para as Commemoraçoes dos Desclubrimentos Portugueses and the following companies: Philips Iberica, Formacion y Consultoria SA, Tecnologia y Sistemas Didacticos, Radio Television Española, the Italian company Comitato Nationale per la Recerca e per le Sviluppo dell'Energie Nucleare e delle Energie Alternativa, Societa Italiana

per la Difusione Automatizzata de Informazioni Culturale e Tecniche and the Danish Radio Television.

The project aims to develop and disseminate new information and communication technology in Europe, while ensuring its transfer to the countries of Latin America. It has developed and produced four CD-I products providing immediate and selective access to a wide collection of multimedia information (over 600 MB of video, sound, graphics, maps, text, photographs and cartoons) in four languages (Spanish, Portuguese, Italian and English). They cover subjects such as geography, environment, anthropology, economics, daily life, art, culture, science and technology, relating to any Latin American or European geographical area and making reference to its historical context.

The '500 años despues' project will provide users with an attractive tool for exploring the reality of Latin America and its relations with Europe in the context of its roots and historical evolution. It makes use today of what will be tomorrow's technology for the diffusion of information and education.

Contact:

C. Poliart
CEC DGXIII
L-2920 Luxembourg
Tel: +352 4301 4226
Fax: +352 4301 3190

STANDARDIZATION

POSIX testing centre opens in Manchester

The CTS (Conformance Testing Services) project on POSIX is now coming to an end. As a result of this EC-funded project, the UK's National Computing Centre was able to announce the availability of a public POSIX testing service in Manchester early in May. Another testing laboratory will shortly be opened by UNI-C in Copenhagen.

The testing service is based on the latest version of the X/Open testing

technology VSX4 and is suitable for verifying the conformity of operating systems to the ISO IS-9945-1 (POSIX) standard or to the US FIPS-151-1.

The contractors of this project (NCC, UNI-C, X/Open and BT) are now promoting a recognition arrangement, within the European Committee for IT Certification (ECITC), aimed at harmonizing testing methods for POSIX.

Since the POSIX standard is an essential component of the open systems

environments, this testing service is expected to provide the basis for future tests of other components.

Contact:

Manuel Carbajo
DGXIII
BU24 00/14
Rue de la Loi, 200
B-1049 Brussels
Tel: +32.2.2368974

Testing and certification moves ahead

The European testing and certification framework has moved up a gear with the recent launch of several new programmes and reports.

The EC has launched phase five of the Conformance Testing Services (CTS) programme, covering selected areas in IT and telecommunications. Suggestions for topics were requested from European organizations interested in the testing domain. Around 20 new topics have been submitted and a consolidated list is now being prepared. The CTS5 projects will start early in 1993.

The EC launched BC-IT-226, a programme on testing and certification, which has been entrusted to CEN/CENELEC/ETSI, who have arranged with ECITC how to coordinate the work. This aims to create an operational system in Europe for laboratory accreditation, conformance testing and certification in IT and telecommunications. The main thrust of the work is in the voluntary area, but the regulatory area is involved to facilitate and promote a common approach as far as possible, avoiding duplications. The work is planned in two phases: phase I until October 1992 and phase II from November 1992 to February 1993.

A study on the market for telecommunications conformance testing services was launched on 27 July 1991. The main objective of the study was to evaluate the European market for testing the conformance of telecommunications equipment intended to be connected to the public telecommunications network. The study quantified this potential commercial market in terms of the size of the CTS market, prices likely to be charged by testing houses and the value of the CTS market.

In order to have a global view of this area of activity, a complementary analysis was made of the market for approval and monitoring of full QA systems and of production QS systems, the market for random checking of product samples, and the market for the supply of test tools.

The study conclude that over a period of 10 years the global value of those markets will be greater than ECU 1 billion. More than 60 European experts on testing and certification recently debated the conclusions of the study at a workshop. They also examined the results of a separate study on a model for test suite production and maintenance in Europe, carried out between September 1991 and February 1992. This aimed to identify a model for the activities going from the availability of a standard to the availability of a corresponding test service; identify the key steps within the overall process; and identify the activities with the potential of benefiting from productivity aids.

The model provided a diagrammatic representation of the activities involved in the production and maintenance of test suites. A specific software package was developed to describe the diagrammatic representation of the activities.

A study on the evaluation of the Community testing inspection, certification and quality assurance services (TICQA services) was launched jointly by DGXIII and DGIII last July. The first phase is an inventory of all the EC entities working in the area of testing, inspection, certification and quality assurance and is being performed by 16 European consultancy companies (eight for the IT and telecommunications sector and eight for the remaining industrial sectors). This was due to be concluded by July 1992. The inventory will be available in the format of a database, containing all the data collected through the exhaustive enquiries made by the consultants.

A second phase will be launched during the second half of 1992. This aims to evaluate the efficiency of the TICQA services and to estimate the additional TICQA infrastructure required to accommodate increased Community demand.

Contact:

José Pato
CEC DGXIII
Rue de la Loi, 200
1040 Brussels
Tel: +32 2 236 82 85
Fax: +32 2 236 83 83

ISODE consortium launched

The ISODE consortium, launched in March, is a non-profit cooperative enterprise which aims to promote and develop the ISODE package of OSI (Open System Interconnection) applications, used extensively in the research community. It will be able to develop the ISODE software more rapidly than would be possible for any single member. This will be to the mutual benefit of members of the consortium and help increase the market for OSI products. Membership of the ISODE consortium is open to any organization in any country.

Founder members of the consortium include: BNR Europe Ltd, Commonwealth Scientific and Industrial Research Organization (CSIRO), Electricité de France, Microelectronics and Computer Technology Corporation (MCC), National Aeronautics and Space Agency (NASA), Performance Systems International (PSI), SURFnet (Dutch research network), SWITCH (Swiss research network), University College London, University of Michigan and X-Tel Services Ltd.

The ISODE consortium's members include the vendors and users of OSI application software who have based their efforts on the ISODE system. ISODE is a package of OSI application software, currently in the public domain. Its key components are X.400 Message Handling Services (PP) and X.500 Directory Services (QUIPU). In addition, there are other OSI applications and the OSI upper layer services needed to support these applications. ISODE applications operate over both a variety of standard OSI stacks and over TCP/IP. This approach to multiple stacks, known as the "transport switch", has allowed deployment of ISODE in a wide range of environments and facilitated interworking between those environments. The QUIPU X.500 is the dominant component of the only large-scale OSI directory so far deployed (over half a million entries in 20 countries). The PP X.400 MTA (Message Transfer Agent) is a high-volume message switch, with emphasis on protocol and content conversion, in use at over 100 organizations. The ISODE applications have been extensively deployed in the research community and have been used as a product base by a number of manufacturers.

The initial engineering work of the consortium will concentrate on the X.400 MTA and X.500 DSA, and on conformance testing of those components. It is also planned to incorporate a new FTAM (File Transfer and Access Management) and VT (Virtual Training) from Control Data Corporation. Participation of user and service organizations in the ISODE consortium will allow for early use of the ISODE software and ensure that the focus is on meeting real user needs.

Contact:

Steve Hardcastle-Kille
ISODE Consortium
European Office
P.O. Box 505
London SW11 1DX (UK)
Tel: +44 71 223 4062
Fax: +44 71 223 3846

HDTV standards: new directive adopted by EC Council of Ministers

The new directive confirming the choice of the format 16:9 and the D2-MAC and HD-MAC standards for the introduction and development of high definition television (HDTV) services was adopted by the EC Council of Ministers on 11 May. The directive is a follow-up to the first directive to 1986 and will be in force until 31 December 1999.
This directive is the first 'pillar' of the Commission's strategy to ensure the introduction of a high-definition television service in the Community.

The two others are the action plan proposed by the Commission (first debate by the Council on 5 June, see page 2 of this issue) and the memorandum of understanding (MOU) signed on 15 June by the equipment industry, producers and broadcasters a binding commitment to develop and promote services and equipment based on the new system.

Council calls for Euro-ISDN standards

Meeting in Luxembourg on 5 June, EC telecommunications ministers adopted a resolution on the development of ISDN calling in particular for the finalization and adoption of Euro-ISDN standards by the European Telecommunications Standards Institute (ETSI) and the coordination of ISDN with the Community. The resolution invites the telecommunications organizations to harmonize and publish migration plans from existing ISDN offerings to the Euro-ISDN. It also invites Member States to encourage the rapid introduction of Euro-ISDN.

INTERNATIONAL PERSPECTIVE

Poland provides successful testing ground for EC help to scientists

There is widely shared and deep concern about the current serious situation of scientists and engineers in the central and eastern European countries and republics of the former Soviet Union.
In Poland, the nationwide brain-drain of experts - mainly to North America - threatens to devastate Polish training and research. The situation is particularly acute in information and communication technologies, where external demand for Polish experts is high. Immediate and concrete action is needed while the preparation of more far-reaching measures continues. In collaboration with the Committee for Scientific Research in Poland, a cooperative action has therefore been set up by DGXIII as a concrete pilot action to help sustain the human potential of research and development in the area of information and communication technology and to intensify contacts bet-

ween researchers in Poland and in the Community. Three organizations have formed a consortium to provide help, administration and monitoring. They are the Polish Foundation of Science and the Polish Information Processing Society (PIP), both based in Warsaw, and the Gesellschaft für Mathematik und Datenverarbeitung mbH (GMD) of St Augustin, Germany. Existing Polish IT and telecommunications research projects have been evaluated by a panel of experts comprising scientists from the Community and from Poland. Out of a total of 63 evaluated proposals, seven were selected as projects for support under the cooperative action, with funding of ECU 300,000. During the negotiations of the proposal it became evident that special financial and administrative problems could arise during the execution of the project. Therefore a special, new

and simple contract was developed by DGXIII in collaboration with DGXX to allow the Commission as well as the consortium to step in quickly should this become necessary.
The pilot phase has established that this model works successfully and the Polish side has already proposed a main phase model. Czechoslovakia and Romania are preparing proposals along the same lines.

Contact:

Klaus Woelcken
CEC DGXIII
BU31 04/82
200 Rue de la Loi
1049 Bruxelles
Tel: +32 2 2368081
Fax: +32 2 2368397

EC-Japan network group meeting

The 4th EC-Japan Network Working Group Meeting was held in Brussels on 7-8 May. This exchange is held annually and gathers experts from the Japanese Ministry of Posts and Telecommunications (MPT) and DGXIII. It alternates with the annual EC-Japan Plenary Meeting on Telecommunications at director-general / deputy minister level.

The agenda of this fourth meeting covered a mutual debriefing and update on a wide range of telecommunications-related topics, notably on standardization, the progress of ISDN introduction, terminal type approval and conformance testing procedures, mobile telecommunications, satellite communications, ONP policies, telecommunications services and the situation of telecommunications businesses.

Special attention was given to the progress of the EC-Japan Interconnection Experiment (EJIX), agreed earlier in principle, which aims at verifying and ultimately ensuring the interoperability of ISDN terminals manufactured in Europe and in Japan which are connected via real ISDN networks (interconnected between Japan and the Community). It was confirmed that the experiment would start looking into G4 fax terminals and ISDN access cards of terminals in the first phase of EJIX. Technical documentation on such terminal equipment was to be exchanged and reviewed in June.

Extending the experiment to ISDN video-telephones and including some supplementary services is envisaged. Active EJIX participants at this early stage of the experiment are NTT and KDD on the Japanese side and RTT/Belgacom and Alcatel on the Community side.

EC-Japan-USA meeting on third generation mobile systems

DGXIII hosted the 2nd Trilateral Meeting on Third Generation Mobile Systems in Brussels on 25-26 May. The Japanese delegation was headed by the Ministry of Posts and Telecommunications (MPT) and composed of representatives of the Telecommunications Technical Committee (TTC) and the Research and Development Center for Radio Systems (RCR). The US delegation was led by a representative of the Federal Communications Commission (FCC) and included members from the Telecommunications Industry Association. The Community delegation headed by DGXIII included representatives from ETSI and ECTEL as well as from the Member States.

The meeting was the second of its kind, after an initiative taken by MPT to organize a first exchange in July 1991 in Tokyo. The purpose of the group is to discuss trends in concepts for universal mobile telecommunications in the three regions, in view of exploring user needs, technical requirements and standardization implications. The aim is both increasing the information exchange on regional developments and the investigation of trans-regional concertation (e.g. with respect to international roaming).

During the discussions in Brussels, each party presented an in-depth update of new regional developments. It was agreed to foster the work of the group, which decided to call itself FAMOUS (Future Advanced Mobile/Wireless Universal Systems) and to resume the exchange in approximately one year in the US, subject to confirmation by participants.

The Brussels meeting also allowed for an exchange of views on new mobile systems which are currently about to become operational in the different regions, such as the second generation of cordless telephones and TFTS.

Commission closes enquiry into state aids for Bull

The Commission has decided to close the state aids enquiry it has been carrying out in respect of FF6.68bn to be granted to the French computer manufacturer, Bull. The Commission has decided that the FF4bn capital injections decided by the French state, owner of Bull, constitute state aid, as the rate of return they will produce would not be considered acceptable by a market economy investor. The Commission has decided to approve the aid, however, on the grounds that it is necessary part of a radical restructuring plan involving substantial redundancies and a loss of market share. These factors, which have been applied consistently to other state aid cases, enable this aid to be regarded as not incompatible with the common market.

Italy: aid to database software cleared by Commission

The Commission has decided to raise no objection to a plan to grant aid to Database Software SpA, a firm which was recently set up in Caserta (in the Mezzogiorno) and which will create 450 new jobs in an area hard hit by the steel crisis. The aid, in the form of a subsidized loan of LIT 16.7 billion (about ECU 10.8 million) and a grant of LIT 29.6 billion (about ECU 19.2 million), is being awarded under a regional aid scheme (no. 181/91) which the Commission authorized earlier. The aid is considered to be compatible with the common market since it fulfils all the requirements laid down for application of that scheme.

Commission approves Dutch R&D aid scheme for JESSI

The Commission has approved a Dutch R&D aid scheme called the "JESSI flanking policy" and its budget of around ECU 5.1 million for 1991 and ECU 5.2 million for 1992. The scheme facilitates the participation of Dutch enterprises, universities and research institutions in the Eureka project JESSI. The research to be supported is basic industrial research and the aid intensity is 50%. The Commission has observed that the aid promotes the execution of an important project of common European interest.

Commission takes negative decision on Belgian aid to Siemens

The Commission has taken a negative decision against aid in the form of subsidies of BEF 256.445 million (ECU 6 million) awarded by the government of the Region of Brussels to Siemens AG. The aid was granted for the purchase of equipment leased to clients, as well as to fund publicity campaigns and market surveys. The Belgian authorities have been requested to recover BEF 227.751 million (ECU 5 million) that had already been paid to the company. This decision is the result of the investigation opened in July 1991 in respect of 17 awards of subsidies totalling BEF 335.980 million (ECU 8 million) awarded by the government of the Region of Brussels under the general aid scheme established by the Economic Expansion Law (EEL) of 1959. The aids had not been notified to the Commission.

The subsidies were granted to assist several expenditure programmes of Siemens SA concerning items such as data processing and telecommunications equipment brought for internal use; development costs of software; training costs; building acquisition; publicity campaigns and market surveys.

After detailed examination of the aided expenditure programmes, the Commission came to the following conclusions:

- Aid of BEF 77.294 million granted towards investments of Siemens SA in equipment for internal use and in building acquisition was legally awarded within the limits authorized by the Commission for the operation of the EEL; accordingly, the Commission has no further comments on these aids.
- The aid of BEF 2.241 million towards expenditures in training costs was illegally awarded in breach of the provisions of article 93(2) EC since such expenditures are not eligible for aid under the EEL; however, after examination of the aided pro-grammes, the Commission has decided to approve the aid in view of its generally favourable attitude towards training aid.
- The aid of BEF 256.445 million towards expenditures in equipment leased to clients, publicity campaigns and market surveys, was illegally awarded in breach of the provisions of article 93(2) EC since such expenditures are not eligible for aid under the EC; moreover, after detailed appraisal of this operating assistance to Siemens AG, the Commission has concluded that it does not meet any of the conditions which must be fulfilled in order for aid to be compatible with the common market. The Commission therefore took a negative decision on this point of the aid and has requested the Belgian authorities to recover the aid from the company.

Commission approves amendment to scheme to assist Italian electronics industry

The Commission has decided to terminate the proceedings it initiated on 24 April 1991 under article 93(2) of the EC Treaty against the application of an Italian scheme to assist the consumer electronics and components industry.

It had approved the scheme on 17 January 1984 and 17 September 1985. The purpose of the scheme was to facilitate the restructuring of the consumer electronics industry by allowing temporary minority shareholdings to be taken in electronics firms, and subsidized loans to be granted, through the public corporation REL (Ristrutturazione Elettronica Spa).

Despite the strict time conditions approved by the Commission, REL continued to retain shareholdings in a number of firms for five years. Furthermore, the Italian government decided on 20 December 1990 to take additional measures to assist the consumer electronics and components industry without informing the Commission in good time.

Since the temporary retention of certain shareholdings beyond the time limit laid down and the supplementary measures adopted by the Italian government were designed to complete the restructuring plan approved by the Commission in 1984 and 1985, and since the supplementary measures entail no increase in the budget, the Commission decided to approve the extension of the scheme and, therefore, to apply the derogation provided for in article 92(3)(c).

Commission opens aid probe into sale of Krupp Atlas Electronik

The Commission has decided to investigate the announcement by the Freie Hansestadt Bremen/Land Bremen that they will grant a DM126 million guarantee to facilitate the purchase by Bremer Vulkan AG of 74.9% of Krupp Atlas Elektronik (KAE) from Krupp AG. The inquiry has been launched under article 93(2) of the Treaty.

In order to acquire KAE Bremer Vulkan issued new shares (2.8 million shares at DM 125 a share, equivalent to DM 350 million) which were handed over to Krupp as a payment. Krupp and HIBEG (a company owned by the Land of Bremen) founded a private company (G.b.R.) to which Krupp contributed its Bremer Vulkan shares and HIBEG DM 350 million, financed by a bank credit. Within the newly founded company, Krupp and HIBEG exchanged their investments so as that Krupp will get

DM 350 million and HIBEG will get the Bremer Vulkan shares. As the market price per share is presently around DM 80 (2.8 million shares are worth an estimated DM 224 million), the difference between the price for KAE (DM 350 million) and the market value of the shares (DM 224 million) is supported by the guarantee, given by the Land Bremen on the credit of HIBEG.

The Commission is concerned that the guarantee given by the Land Bremen may represent aid either to Bremer Vulkan or Krupp or both of them. Furthermore the Commission will enquire into HIBEG's transactions and the part it plays in the whole arrangement.

Commission clears joint venture in value-added networks for transport

The Commission has cleared an operation whereby France Telecom and Deutsche Bundespost Telekom, through their jointly owned company EUCOM, and Digital Equipment (Holdings) BV, create a joint undertaking EURO-LOG to provide value-added network services in the transportation sector.

EUCOM is a holding company that develops specific value-added services by cooperating with other partners or by investing in existing companies. The main activities of the Digital Group include the design, manufacture, sale and service of computer systems, associated peripheral equipment and related software products.

EURO-LOG's purpose is to provide a high value-added open neutral information system for the complete management and control of the transportation supply chain. There is no indication that EURO-LOG will foreclose a market to any significant extent. The Commission therefore concluded that the proposed concentration does not create or strengthen a dominant position and has decided to declare it compatible with the common market.

EUROPEAN DIMENSION

New opportunities for cooperation between EC R&D and Eureka

Ministers from 20 European countries and European Commission vice-president Filippo Maria Pandolfi met in Tampere (Finland) on 22 May for the 10th Eureka Ministerial Conference. After welcoming Hungary as a new member of the Eureka initiative - the first central European country to be included - the conference announced 102 new Eureka projects, bringing the total project portfolio to 539. The conference adopted the new medium-term plan for the period mid-1992 to mid-1996, emphasizing the need to increase cooperation with non-member European countries as well as the synergy between Eureka and EC research programmes. This was also the subject developed by Mr Pandolfi in his presentation on new opportunities to optimize the complementarity between the two approaches.

The 102 new projects - including five in communications, 20 in information technology and 16 in robotics - at a total value of ECU 627 million, brings the number of on going projects to 539 worth a total of ECU 8,840 m. This was noted with satisfaction by the conference wich felt it was time for a detailed assessment of the industrial and economic impact of the Eureka initiative, a task to be undertaken by the new French presidency.

Discussions focused on the future as the conference adopted the new plan; the general framework for Eureka activities for the next four years. Six priority areas were identified: the quality and diversity of projects, transparency and coordination, support for successful project implementation, increased participation of small and medium sized enterprises, increased synergy between Eureka and EC R&D programmes and national programmes, and increasing cooperation with central and eastern European countries.

Stressing the need to preserve the specific characteristics of both the Eureka initiative and the Community programmes, the Conference debated the communication presented by Mr Pandolfi entitled "Interactions between EC R&D activities and Eureka". Mr Pandolfi underlined the Commission's

contribution to Eureka. The number of projects in which the Commission participates - either financially, through the transfer of results or through supporting measures - has reached 68, at a total cost of ECU 3,150 m, representing 40% of the total cost of Eureka projects. The Commission finances 21 of these projects, worth an estimated total cost of ECU 1,736 m, directly or indirectly through Community activities or the Joint Research Centre.

Referring to the new frameworks for European R&D activities - the new Eureka medium-term plan, the Maastricht Treaty on European Union (aiming to use R&D to reinforce industrial competitivity) and the 4th EC Framework Programme for R&D now being drawn up. Mr Pandolfi stressed that these offer a fresh opportunity to explore new types of synergy between Community and Eureka actions. This implies sharing the same broad evaluation of the needs of European industrial development and determining priority action areas in the framework of a common strategy. Coming to formal proposals, he suggested improving consultation between the two bodies and announced the creation, under the 4th Framework Programme, of a European fund of about ECU 100 m to promote R&D and innovation for SMEs. This fund will cover the cost of reduced interest rates on loans given to SMEs to finance their R&D and innovation activities to help them make use of the results of R&D activities.

This document was discussed at a high level group meeting on 25-26 June. A special working group has been set up to explore new opportunites for concertation and joint management, with the aim of fostering closer contacts between the EC project officers, units and divisions, and the Eureka structures, as well as a more effective exchange of information.

CEPIS to develop Computer Journal

The Council of European Professional Informatics Societies, meeting on 13 May, supported the proposition of a European professional journal covering a broad spectrum of IT matters. In particular, the group confirmed that the Computer Journal was in their view a good point from which to start. They propose, therefore, to recommend to the CEPIS Council that:

- CEPIS supports the development of such a proposal, with appropriate presentational changes (e.g. putting "with the support of CEPIS" on the front cover).
- CEPIS should support the action to identify and assist in the recruitment of special editors.

The issues that they expect to have the CEPIS Council raise are:

- National origin and any possible alternatives to the Journal. However, the group felt, that the Computer Journal represented the best qualified of any potential candidates. (A set of criteria has to be identified against which they might judge both the Computer Journal and possible alternatives.)
- Financial transparency with respect to any support for making the Journal fully European.
- Subscription rates (special CEPIS rates).
- Relationship with other relevant national journals. In this respect they suggested the possibility of national journals reproducing articles (with acknowledgements).
- The somewhat "academic" tone and the possibility that this might move a little more towards the "professional".

Contact:

David Talbot
CEC DGXIII
200 Rue de la Loi
B-1049 Brussels
Tel: +32.2.2368103
Fax: +32.2.2368364

PUBLICATIONS

European Cellular Market 1992

EMCI, 1992, 2 Vol.

Growth of individual cellular markets varied considerably across countries in 1991. Two of the largest cellular markets in Europe, Germany and Italy, each doubled their subscriber bases in 1991, exceeding historical growth rates. By contrast, the UK and France, also two of the largest European cellular markets, experienced record slow growth. Whether or not these growth trends are structural or short-term is examined in the latest edition of European Cellular Market, published by EMCI (Economic and Management Consultant International).

By 1996, EMCI projects that the market for European cellular telecommunications will reach 13.7 million subscribers or 3.1% of the total market, representing a trebling of year-end 1991 aggregate subscriber levels. Growth will be driven largely by the French, German, Italian and UK markets which are forecast to represent more than 70% of the total European cellular subscriber base in 1996. EMCI also examines the future growth of existing analogue cellular systems relative to GSM, the pan-European digital standard, and the impact this will have on cellular telephone sales by country.

Contact:

EMCI
Lysanne Sizoo
6 Chapel House Business centre
152-156 High Street
Yiewsley, West Drayton
Middlesex UB7 7BD UK
Tel: +44 895 431329
Fax: +44 895 430259

EUROPEAN CELLULAR MARKETS: 1992

VOLUME 1

EMCI
Telecommunications Consultants

Cordless Telecommunications in Europe

W.H.W. Tuttlebee, Plessey Research and Technology, Romsey, UK (Ed.)
1990. XVIII, 304 pp. ISBN 3-540-19633-1

This is the first major work dedicated exclusively to cordless telecommunications in Europe. It describes early digital cordless telephone products, discusses the evolution of the market for cordless telephones and examines the establishment of technical standards. It illustrates the introduction of Telepoint services in Europe with perspectives from several countries. The major technical foundations of cordless telephone system design are presented: network, audio and radio aspects. Implementation technology is also reviewed. The book includes a summary of both the CT2 CAI (Common Air Interface) standard and the new pan-European DECT (Digital European Cordless Telecommunications) standard. It is intended to provide a technical foundation for the understanding of digital cordless telephone systems and of current technical standards.

Contact:
Springer-Verlag
Heidelberger Platz 3
D-1000 Berlin 33

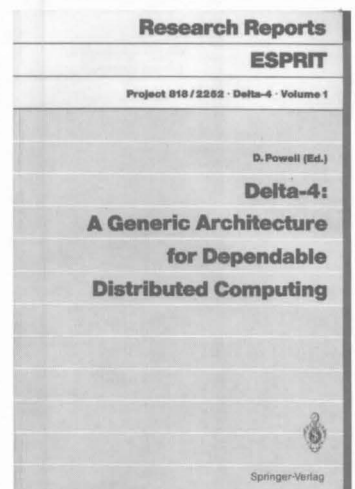## Delta-4: A Generic Architecture for Dependable Distributed Computing

D. Powell, Toulouse, France (Ed.)
1991. X, 484 pp. (Research Reports ESPRIT. Project 818/2252 Delta-4. Vol. 1) ISBN 3-540-54985-4

This book describes the design philosophy and concepts of a novel distributed fault-tolerant architecture developed by the Delta-4 project, a five-nation project grouping 13 partners to investigate the achievement of dependability in open distributed systems, including real-time systems. The architecture features a dependable communication system using standard local area network technology, a distributed object-oriented application support environment, use of multicase or group communication protocols, and built-in support for user-transparent fault-tolerance.

The book opens with an overview of the architecture and its objectives, then describes the concepts of dependability, real-time and distributed fault-tolerance and the design of each of the major architectural components, including the Delta-4 applications support environment and the open and extra performance variants of the architecture. Work is described in the field of security, on intrusion-tolerance and tolerance of software design faults by diversified design. Finally, there is an overview of the validation activities carried out on the architecture. The book gives an insight into state-of-the-art techniques for providing both dependable and real-time service in distributed systems.

Research Reports
ESPRIT

Project 818/2252 · Delta-4 · Volume 1

D. Powell (Ed.)

Delta-4:
A Generic Architecture
for Dependable
Distributed Computing

Springer-Verlag

Contact:

Springer-Verlag
Heidelberger Platz 3
W-1000 Berlin 33

AGENDA

Telecommunications engineers to meet in Seville in September

Telecommunications and the Single Market will be the key topics to be discussed at the 31st European Telecommunications Congress, organized in Granada-Seville from 27 September - 2 October 1992.

The congress, organized by the Federation of Telecommunications Engineers of the European Community (FITCE), will look specifically at developments in telecommunications stemming from increased customer awareness and the resulting requirements for new services. It will also examine regional developments relating, amongst other things, to the notion of economic and social cohesion mentioned explicitly in the Maastricht Treaty. During the congress, 40 high-level speakers, actively involved in telecommunications in one of the EC countries, will deliver insiders' views on a variety of related topics. These include regulation and policy, network strategy and technology, and human issues.

Participants will have the opportunity to visit the latest telecom facilities and projects shown at the Seville World Exhibition.

Contact:

FITCE Secretariat
42 rue des Palais
1210 Brussels
Tel: +32.2.2174742
Fax: +32.2.2172350

Tap Soft '93:
Call for papers

The fourth International Joint Conference on the 'Theory and Practice of Software Development, Tap Soft 93, will be held in Orsay (France) from 13-17 April 1993. The conference, organized by AFCET, will be divided into three parts:
- A colloquium on trees in algebras and programming (CAAP) focusing on: logical, algebraic and combinational properties of discrete structures and application of discrete structures to computer science.
- A colloquium on formal approaches of software engineering (FASE), offering a forum for the different formal approaches to the problem of software specification, development and verification.
- An advanced seminar including discussions on constructing systems as object communities, developing concurrent programs and applications of types theory.

Original papers on the appropriate topics are welcomed.

**Deadline for submission:
15 October 1992.**

Contact:

Tap Soft 93
AFCET
156 Boulevard Péreire
75017 Paris
Tel: +33 1 47 66 24 19
Fax: +33 1 42 67 93 12

MAP/TOP European forum and exhibition at Systec 92

The Systec International Trade Fair in Munich on 18-23 October 1992 will be the platform for a major European MAP event for the third time. Under the theme "MAP/MMS at work", the European MAP/TOP Users Group (EMUG) will present a multivendor exhibition demonstrating new developments in the area of MAP (Manufacturing Automation Protocol) and MMS (Manufacturing Message Specification) products and applications. The exhibition will be complemented by an international MAP/TOP forum with presentations on MPA and MMS installation projects, strategies and products as well as six MAP/MMS tutorials and workshops with topics on networking strategies, application enablers and development tools, installations open systems migration, testing and fieldbus.

The forum, the workshops and tutorial are being organized by EMUG in conjunction with the Association of German Engineers Society for Production Engineering VDI-ADB.

Contact:

EMUG Secretariat
Institute for Industrial Information Technology Ltd
Innovation Centre,
Swansea, SA2 8PP, UK
Tel: +44 792 295810
Fax: +44 792 295811

Second Computer Graphics Fair 1992

The Computer Graphics Center (ZGDV e.V.) is organizing the second trade fair for computer graphics in Rostock from 15-17 September. The first German trade fair in Rostock, held in November 1990, offered guidance in the highly complex area of computer graphics to the eastern part of Germany and accelerated the transfer of technology. Since the beginning of this year, the collaboration between ZGDV Rostock and the University of Rostock has included the branch office of the Darmstadt-based Fraunhofer Institute for Computer Graphics, a development which shows that the Darmstadt-Rostock axis proved a successful bridge for technology transfer.

This second trade fair aims to initiate major economic developments in the computer graphics market. This year's motto is: *Computer Graphics, the basic technology for innovation and innovative applications of information technology in business, industry, research and administration.*

The Computer Graphics Fair offers an excellent forum for information on the broad range of products offered by leading hardware and software manufacturers and for establishing new contacts. Besides technical and industrial lectures, an industrial exhibition will be organized in which well-known companies, manufacturers and users, in particular ZGDV members, will take part. As in 1990, the exhibition will be held in the Rostock Congress Hotel. This fair will interest DP companies, the computer graphics using industry, junior industrialists, engineers, technicians, scientists, trainers and private computer users.

Contact:

Bernard Lukacin
Zentrum für Graphische
Datenverarbeitung e.V.
Wilhelminenstrasse 7
D-6100 Darmstadt
Tel: +49 6151 / 155 174
Fax: +49 6151 / 155 199

Audiovisual sciences: 9th international meeting

The 9th International Meeting on Scientific Audiovisual Images and Sciences will take place in Paris on 2-10 October 1992 on the subject "Europe and Science".
This meeting is sponsored by the French Centre National de la Recherche Scientifique (CNRS) and the International Council of Cinema, Television and Audiovisual Communication of UNESCO. Coordinated by the CNRS Images/Media, FEMIS (Fondation Européenne des Métiers de l'Image et du Son) and l'Agence Jules Verne, it will include:

- The International Festival of Scientific TV Programmes.
- The Jules Verne Award.
- The Camera Award.
- Two European seminars entitled "Europe and Science: what impact on TV?" and "Europe of Knowledge".
- Ten days of special activities in museums on the theme of science and its images.

- The first international festival for the best multimedia scientific document for education.

Contact:

9ème Rencontres Internationales de l'Audiovisuel Scientifique
Annick Demeule
Palais de Tokyo
13 Avenue du Président Wilson
75116 Paris
Tel: +33 1 47 23 79 30
Fax: +33 1 47 23 05 41

1er Festival International des Multimedia
Ghislaine Azemard
17 Rue de Lancry
75010 Paris
Tel: +33 1 42 06 24 81
Fax: +33 1 43 29 20 41

Third Eurochip workshop on VLSI design training

The third Eurochip workshop on VLSI design training will be organized in Grenoble (France) from 30 September to 2 October. The workshop is intended to be a forum for the presentation and the discussion of teaching experiences, advances, practical exercises, etc. for academic institutions involved in VLSI design training.
Contributions have been reviewed by a panel of prominent experts. In additions, Eurochip has organized university CAD tool demonstrations, a circuit exhibition and a teaching material exhibition. A session is devoted to a report on the design contests and two panels have been organized, on university CAD software for teaching and research and on Industry needs in different areas.

Contact

Workshop Secretariat
CNRS
CMP/Eurochip
46 Avenue Félix Viallet
38031 Grenoble Cedex (F)
Tel: +33 76 57 46 15
Fax: +33 76 47 38 14

12th IFIP world computer congress

The International Federation for Information Processing (IFIP) will hold its 12th world congress in Madrid, from 7 to 11 September, on the theme 'from research to practice'. Sessions will focus on : software development and maintenance, algorithms and efficient computation, from architecture to chips, informatics and education, the vulnerability of the information society (social, legal and security aspects), expending the power of the personal computer and enhancing the intelligence in information systems.

Contact :
Grupo Geyseco
C/Mauricio Legendre
4-8° G. 28046 Madrid (Spain)
Tel : +34 1 3233701
Fax : +34 1 3234936

High-performance networking - 4th IFIP conference

After the High-Speed LAN Workshops held in Aachen in 1987, in Liège in 1988, and a very successful conference in Berlin in 1991, a new conference is to be held in Liège on 16-18 december. In the framework of the corporate networks evolution, the conference will focus on high-speed networks (from 100 Mbps to more than 1 Gbps), on protocol enhancements required by this new communication environment as well as on the new requirements derived from the development of new applications.

Discussions will include:

- New MAC services and protocols (gigabit networks, ATM-based systems).
- Enhanced network and transport services and protocols (multipeer and multicast, flow and rate control, congestion avoidance, QoS semantics and management, routing in high-performance networks).
- New applications (performance of bridges and routes, MAN and WAN for corporate networks, low-speed and high-speed internetworking).
- Implementation and performance evaluation (MAC performance in high speed networks, high speed controller and interface, efficient protocol implementation, parallel implementation and multiprocessor platform, prototyping, high-speed protocol engineering with formal methods).
- Experiences with operational campus networks and MANs (installation, operation and management of high-speed networks; measurement strategies, tools and results; interoperability problems and solutions; user requirements and user acceptance).

Contact:

André Danthine
Université de Liège au Sart Tilman
Institut d'Electricité Montefiore B28
B-4000 LIEGE
Tel: +32 41 56 26 91
Fax: +32 41 56 29 89
e-mail: danthine@vm1.ulg.ac.be

13th FIT World Congress

Translation - the vital link
Call for papers

The 13th World Congress of the International Federation of Translators (FIT) will be held in Brighton, UK from 6-13 August 1993, coinciding with the organization's 40th anniversary.

There will be six workshops covering literary translation, sci-tech translation, interpreting, the public face of translation, languages of limited diffusion and translation studies. Each workshop will cover training, terminology, history and subject literature, but other aspects appropriate to each topic will also be covered.

The planning committee has issued a preliminary call for original papers. All papers will undergo a vetting process before being accepted and fitted into the schedule. Papers should be delivered in one of the official languages of FIT, French or English.

Contact:

ITI (FIT World Congress)
318a Finchley Road
London NW3 5HT (UK)
Tel: +44 71 794 9931
Fax: +44 71 435 2105

Association for Global Strategic Information

The first annual conference of AGSI - the Association for Global Strategic Information - will be held in Bad Kreuznach, in the Mainz area of Germany, from 9 - 11 November 1992.
`Strategic information' is defined by AGSI as information that may lead to direct action within an organization that operates within a competitive environment; the domain also embraces competitive intelligence and information designed for use by top management. This first international conference will provide a focal point and a forum for those working in this area to meet and examine challenges common to them all.
The first day of the conference includes sessions on psychological and cultural competitive analysis of transnational corporate strategic decision-making, on strategic information and the expectations of senior management. The second day includes sessions on techniques of information analysis, and on competitive intelligence management and techniques. The third half-day includes a session on networks and information flow.

The conference also includes in the programme three mini-seminars: by Glenn Omura of Michigan State University on `The analyst as a strategic thinker', by Richard Klavans of Temple University on `Quantitative techniques for assessing worldwide scientific and technical capabilities', and by Kirk Tyson of Kirk Tyson International on `Global benchmarking: a case study'.
Scheduled speakers at the conference include Bernard Bourgeois (CNRS, France), Ruth Stanat (SIS International, USA), Jo Vandenhende (N.V. Bekaert, Belgium), Jonathon Lax (The Marketing Audit, USA), Kaeven Gazdar (Dr Höfner & Partner, Germany), Francis Narin (CHI, USA) and Alan Bonnet (ENST, France).

Contact:

Infonortics Ltd.
9a High Street
Calne, Wilts, SN11 0BS
England
Tel: +44 249 814 584
Fax: +44 249 813 656

4th European Value Analysis Conference

The European Commission, under the Sprint programme, has promoted the application of value analysis and has already achieved a number of aims, including a wider knowledge of the European value analysis market, an understanding of training requirements and of the advantages of creating standards in this area.

This fourth European conference, to be held in Seville (Spain) from 18-20 November, has as its main aim a further extension of knowledge of value management as a means to make companies more competitive.

The conference is directed towards new management techniques, the most recent experience of benefits from value analysis and ways of setting it up successfully in companies. It will also attempt to increase the use of value management through exchange of experiences between: directors, senior managers, executives, personnel and training managers, engineers, specialists and value analysis associations.

The objectives are as follows: to spread the methodology of value management among companies, stimulating its utilization and implementation; make known the current situation of value management in Europe; define strategies for its future extension and utilization; exchange experience through cases in diverse sectors of activity.

Contact:

Instituto Andaluz de Tecnologia
Moratin 1
E-41001 Sevilla (Spain)
Fax: +34.5.4562355

European Association of Directory Publishers

The European Association of Directory Publishers, representing 150 members in 20 European countries, will be organizing a conference in Vienna from 23-26 September 1992.

Items to be discussed include the future of directories and protection of the environment; paper recycling; hot-line connection to data banks in the USA; directories in eastern Europe; marketing across Europe in the '90s. Data protection issues will be covered by members of the European Parliament.

An exhibition of directories and information products will accompany the conference, to be held at the Plaza Hilton Vienna, Schottenring 11.

Contact:

European Association of Directory Publishers
Square Marie Louise (bte 25/27)
B-1040 Brussels
Tel: +32 2 230 26 72
Fax: +32 2 231 14 64

DGXIII participation in technology exhibitions

IFIP 92 (information processing) Madrid	7-11 September
ECOC 92 (optical communication) Berlin	28 September-1 October
SMAU (office and business systems) Milan	1-5 October
Interkama (multimedia) Düsseldorf	5-10 October
Tec (multimedia) Grenoble	14-17 October
IEEE Medicine (AIM) Paris	29 October-1 November
Esprit 92 Brussels	23-27 November