

NISSAT

NEWSLETTER

Vol. 9

No. 4

Oct.-Dec. 1990

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Published by the Society for Information Science on behalf of National Information System for Science & Technology (NISSAT), DSIR, Government of India, Technology Bhawan, New Delhi-110016.

NISSAT Newsletter, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

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NISSATCARD — A Passer-partout for Library Users

Can you walk into a library and have access to information material? In most libraries, non-member users would have to take special permission from the Head of the Library after producing satisfactory proof of their bonafides.

Can you get a book issued from a library of which you are not a member? Presently this is possible only through inter-library loan, or by courtesy of a member friend.

As things are, it is extremely difficult to access or use resources located outside of the library of one's own institution. In that case, the literature search of a researcher gets limited to the resources available in his institution. An entrepreneur, or one from small and medium scale industries which usually lack library facilities, has to depend entirely on courtesies extended by somebody.

Imagine a single membership that could facilitate access to information material in all libraries in the country and voila, we have the concept of NISSATCARD.

In this concept three sets of players are involved. The position of users has been discussed earlier — their problem of getting access has to be solved. On the other side, the interest of library custodian is to be protected in the scheme. Presumably a librarian does not allow anybody and everybody to use the reading room facilities or to borrow books because he is worried about possible loss or mishandling of materials or he does not want to overload his system. In his heart of hearts though he may welcome a reading room full of serious readers. In between these two communities, NISSAT may work as the access facilitator. The NISSATCARD is a means of performing this role.

As to how NISSATCARD would be issued, and how this scheme would operate, are matters of detail to be worked out. In the first instance the scheme may be designed purely on commercial lines. For example, a deposit of say Rs. 1,000/- may be taken from individuals and a higher amount from institutions as security. This amount may be retained in banks and government securities, out of the interest of which the scheme may be operated. A sophisticated security-proof card like credit cards may be issued for introducing the user. A wad of cheques may be issued to facilitate issue of library materials. Along with the card and the cheque book, a directory of libraries participating in the scheme may be provided.

So far as the interest of libraries is concerned, one can explore with the general insurance companies to find out whether loss and mishandling of books, etc., could be covered by insurance. If not, an accounting system may be evolved through which such loss or damage of information material could be compensated.

The idea is still in an embryonic stage. A study would soon be launched to establish the feasibility of the concept. We would appreciate if you could communicate to us your ideas and apprehensions. There would be problems of course but most of these could possibly be overcome. It must be realized that the system proposed would facilitate maximizing the benefits of the limited resources available and help reduce acquisition in overlapping areas. And last but not the least, it would help conserve our foreign exchange resources.

— A. Lahiri

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Regional Informatics Network for South and Central Asia (RINSCA)

by

A. Akopov

UNESCO Regional Office for Science and
Technology for South and Central Asia
New Delhi.

In October-November 1990 the Regional Meeting of the National Coordinators for the Regional Informatics Network for South and Central Asia (RINSCA) and Intergovernmental Informatics Programme (IIP) Focal Points was held in New Delhi at UNESCO Regional Office of Science and Technology for South and Central Asia (ROSTSCA). The meeting was attended by the National Coordinators from Afghanistan, Bangladesh, India, Iran, Mongolia, Maldives, Nepal, Pakistan, Sri Lanka and USSR.

Meetings of this kind have been organized yearly since 1983 and are aimed at promoting regional cooperation in the field of informatics, coordination of efforts of participating countries and UNESCO/IIP as well in building up of regional infrastructure, identifying priorities and initiating appropriate national and regional projects.

The major issue discussed at the last meeting was the new project proposal on Regional Informatics Network for South and Central Asia (RINSCA) for evolving regional Informatics Network for Asia and Pacific (RINAP). The project proposal was worked out in cooperation with National Informatics Centre (NIC) of India in accordance with the recommendations of the previous meeting of the National Coordinators held in Kathmandu, Nepal in October 1989. The project proposal was presented by Dr. N. Seshagiri, Director-General of NIC.

The general outlines of the project are as follows.

Brief Description

To set up a Regional Informatics Network for South and Central Asia (RINSCA) and in cooperation with the Regional Informatics Network for South East Asia and the Pacific (RINSEAP) evolve a low cost Regional Informatics Network for

Asia and the Pacific (RINAP) with computer-communication linkages and access to mutually agreed upon databases; towards this end, specialised training programmes will be arranged for preparing the participating countries for a self-reliant implementation, maintenance and utilisation of the respective nodes of the network; towards efficient utilisation of the network, create appropriate national infrastructures for retrieval and dissemination of information from internationally available commercial databases and United Nations databases apart from regional facilities for CD-ROM premastering, mastering and replication facilities for full texts of open documents collected within the RINSCA region on agreed upon topics.

A. CONTEXT

1. Description of Sub-sector

Sustained and sporadic efforts were made in the past, under a number of projects supported by United Nations and other international organisations, in South and Central Asia as well as in South East Asia. These efforts have made virtually no impact because of the conspicuous absence of the physical network infrastructure. There exist demand for access to United Nations Databases for which the countries feed information without deriving direct benefit in the form of ready retrieval facilities. In addition, numerous, commercial international databases are available online for which also, there exists considerable potential demand in the two sub-regions of Asia and the Pacific.

2. Regional Strategy

The inability of these countries to retrieve information at low cost can be traced to the absence of International Gateway Packet Switch (IGPS) systems in most of the countries of both the sub-regions. If such a system existed following certain strict international standards and protocols,

3

it would facilitate not only access to international databases, but also physically link all the participating countries of the two sub-regions in the form of a Regional Informatics Network. In the implementation of this, a technically adequate low cost approach is advocated to installing IGPS equipment with the international/overseas communication service organisations in the host countries in the region with links to the national focal points identified for RINAP/RINSCA through a dedicated line or radio link.

3. Prior or Ongoing Assistance

In the sub-sector '*Informatics Network*', there are a number of projects either at a low key or at pilot stage. UNESCO has been running the RINSCA Project at a very low key since 1983 without the benefit of a physical network. Under the auspices of the Inter-governmental Informatics Programme (IIP) of UNESCO, a few computer-communication links are proposed to be installed on a pilot basis. Some of the countries like India and Indonesia have their own satellites with extensive VSAT or SCPC type of networks and strong intra-national networks are growing in these two countries. The UNDP has been supporting a pilot project called Technology Information Pilot System (TIPS) with a few countries in the region as participants. IDRC had supported a DEVSIS Node in Pakistan which has since been discontinued. ESCAP has set up a number of information systems concerning Asia and the Pacific Region though, these are not available online to all the countries even within the region.

4. Institutional Framework for the Subsector

Since UNESCO/ROSTSCA has succeeded in getting the approval of various member countries for setting up RINSCA since 1983 and the follow up measures taken by UNESCO for setting up a similar project RINSEAP, the institutional framework for the sub-sector is proposed to be coordinated by UNESCO under its overall Inter-Governmental Informatics Programme (IIP). Towards this end, the headquarters of RINSCA will be UNESCO/ROSTSCA in New Delhi and the headquarters of RINSEAP will be UNESCO/ROSTSEA, Jakarta. Executive Secretaries have been identified in both the sub-regions with a proposal for a hotline electronic mail link between the two. An Inter-subregional Coordination Committee between RINSCA and RINSEA is being set up for facilitating coordination on a standing basis. Each participating country in both

the sub-regions has identified IIP/RINSCA/RINSEA focal points which will act as a single point clearing-house for all transactions to and from the country. The responsibility for growing the user community for RINSCA/RINSEA is given to the national focal points with UNESCO/ROSTSCA/ROSTSEA acting as catalytic agents respectively. A pre-mastering, mastering and replication facility for CD-ROMs is proposed to be set up one each at RINSCA headquarters and RINSEA headquarters for mass production of CD-ROMs of full text open documents in identified areas generated in the respective subregions with a widespread distribution throughout the world. The entire project will come within the regular project appraisal of IIP.

The above institutional framework for the proposed project fits into the following institutional framework generally existing in the participating countries for the subsector of Informatics Networks: In South and Central Asia only India has extensive informatics networks in addition to Iran and Pakistan who have small but growing computer communication network. In South East Asia, South Korea, Singapore and Indonesia have extensive networks within their countries in addition to Malaysia, Philippines and Thailand which have small but growing networks. Virtually in all the countries of both the subregions, telecommunications including computer communication, is governed by the Post and Telegraph or Telecommunications Department of the Government of associated public sector organisations except in Singapore and South Korea where private sector companies have also taken initiative. The institutional framework coming in the way of international online computer-communication is the security considerations of transborder data flow which are governed by the Government Departments for Internal Affairs and Foreign Affairs or equivalent institutions. Whereas most of the countries in the two subregions have a reasonably good policy framework for computerisation, the policy framework for computer-communication practically does not exist except in a rudimentary form in South Korea, Singapore and India.

The institutional framework for the project has to be evolved within the ambit of this institutional framework for the sub-sector.

B. PROJECT JUSTIFICATION

1. Pre-project Scenario

Most of the countries in the RINSCA region

except India do not have online access to UN and International Databases. Even in the case of India, online access facility is less than one year old and is at a rudimentary stage. Awareness concerning CD-ROM databases and their access is also either non-existent or at a very low level. The situation is the same in the countries coming within the purview of RINSEA project except in the case of Singapore, South Korea and Philippines where a beginning has been made recently. Under the various projects and programmes of the United Nations, hundreds of databases are being created for which the countries of the RINSCA and RINSEA region are contributing information pertaining to their countries. Nevertheless, most of these countries do not access information from the databases to which they contribute. The main reason for this is the lack of appropriate packet switched gateways for online access of UN and international databases as well as bottlenecks in the form of foreign exchange and customs restrictions preventing the free flow of CD-ROMs in and out of the countries. Further, open information available within the region in the form of reports, are not available to other member countries of RINSCA/RINSEA in full text form. Publishing of full text CD-ROMs and distribution through UNESCO can overcome many of the bottlenecks presently encountered.

2. Post-project Scenario

At the end of the project, the problems mentioned in B(1) above are expected to be solved in all the member countries. For some of the least developed countries in the region, continued UNDP and UNESCO assistance beyond the duration of the present project may be necessary in order to bring them to a self-sustaining level. The cost of this extended assistance over a further three year duration is, however, expected to be less than 20 percent of the budget for the present project. These countries are: Male, Bhutan, Afghanistan and Mongolia.

3. Target Beneficiaries

As the proposal refers to the creation of gateways to online databases and subscription to CD-ROM databases, in the long term numbering a few thousands, the beneficiaries can, in principle, be all the organisations and people who are engaged in the national economic and social development process. In practice, however, the beneficiaries are restricted to the organisations and people specialising in areas identified

progressively by the RINAP/RINSCA steering Committee like the Development Planning Documentation, Health Information, Industry and Technology, Agriculture, etc. The project proposes to deal with directly only one focal point in each of the participating countries. Except in the least developed countries, it is expected that the focal point will mobilise existing resources and elicit the support of existing organisations for servicing the queries to the databases. This information dissemination responsibility will be the counterpart investment of the governments of the participating countries for deriving the maximum benefit from the project.

The availability of such a gateway and the CD-ROM resources will be publicised widely in the respective countries so as to attract priority users for benefiting by the project. For example, in India there are extensive computer-communication networks available already spanning numerous cities. Though the proposed project gives access to the external gateways and hence a large number of databases available in the United Nations and other International organisations, they are available only at the focal points. If the focal point makes use of the existing telex or computer-communication networks in the best possible manner, it is possible to operate the query system from a large number of cities.

4. Project Strategy and Implementation Arrangements

Mainly, the strategy is three-pronged: (a) giving wide access to online international databases, (b) subscribing to CD-ROM databases in areas of interest to the participating countries and (c) creating a regional pre-mastering, mastering and replicating facility for CD-ROMs for full text report storage for intra-regional and inter-regional distribution. These three technologies have been chosen in view of their low cost and omnibus capability.

The above project proposal was unanimously supported by representatives of RINSCA member states and adopted for implementation in South and Central Asian region. UNESCO/ROSTSEA was requested to circulate the project proposal among the countries of South-East Asia and Pacific for their consideration of possibilities of parallel intercoordinated development of RINSCA and RINSEAP and further integration of the two networks into RINAP.

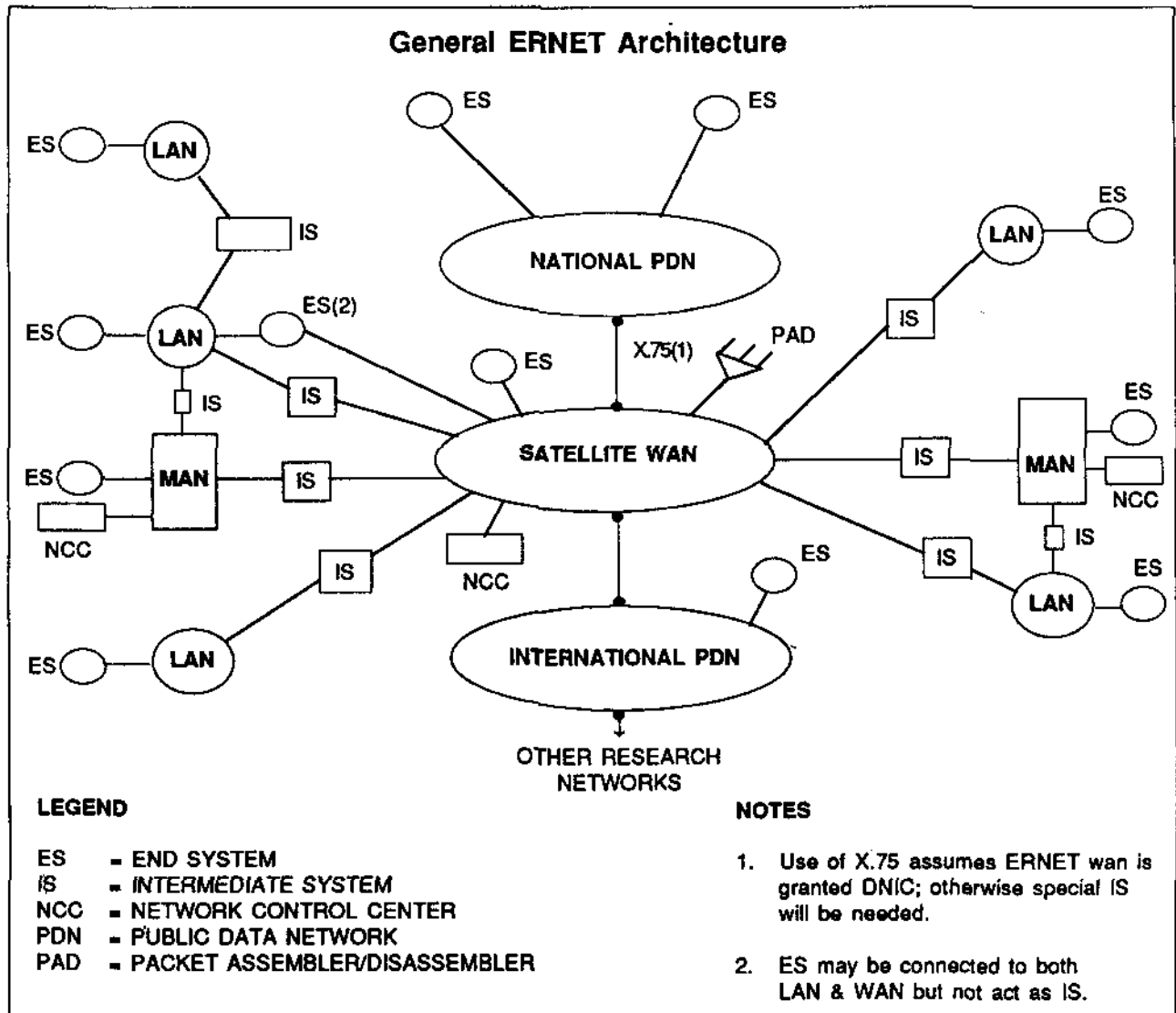
Project ERNET

Project ERNET was initiated as a result of identification of computer networking as a thrust area by the Department of Electronics (DOE) during the Seventh Plan (1985-90). It is aimed at setting up a computer network for academic and research community with initial participation from eight leading academic and research institutions including the Department of Electronics.

The methodology adopted in implementing the network, ERNET, is aimed at promotion of capability-building at the participating institutions so that the nation can derive the benefits from the project activity and accelerate the goal of attaining

self-reliance. Technology development coupled with hands-on experience in design, development, use and support of the ERNET (to be put to use initially by the participating agencies themselves and later by a wider section of academic and research community in India) is expected to pave the way for a must wider deployment of the capabilities, technologies and solutions thus generated in industry, public, private and specialized networks as well as other user groups in India.

The ERNET architecture and implementation strategy follow an evolutionary path to enable progressive and rapid building up of capability,



expertise and confidence for graceful migration from *proprietary solutions or non-standard solutions* to those based on *international standards*. Multi-vendor computing environment is supported with an *internetworking architecture* with a variety of underlying sub-networks, viz., campus Local Area Networks (LANs), Wide Area Network (WAN), Packet radio based Metropolitan Area Network (MAN). Global applications would include *electronic mail, file transfer, remote log-on, database access and conferencing*.

As an enabling technology for academic and research community in the country, ERNET endeavours to provide a vehicle for strengthening collaborative efforts among geographically dispersed institutions, groups and individuals. It should thus help to strengthen linkages between academia, R&D groups and industry.

The project started in November, 1986 with an initial duration of four years. UNDP has provided critical support through international experts, training at reputed institutions abroad and development tools.

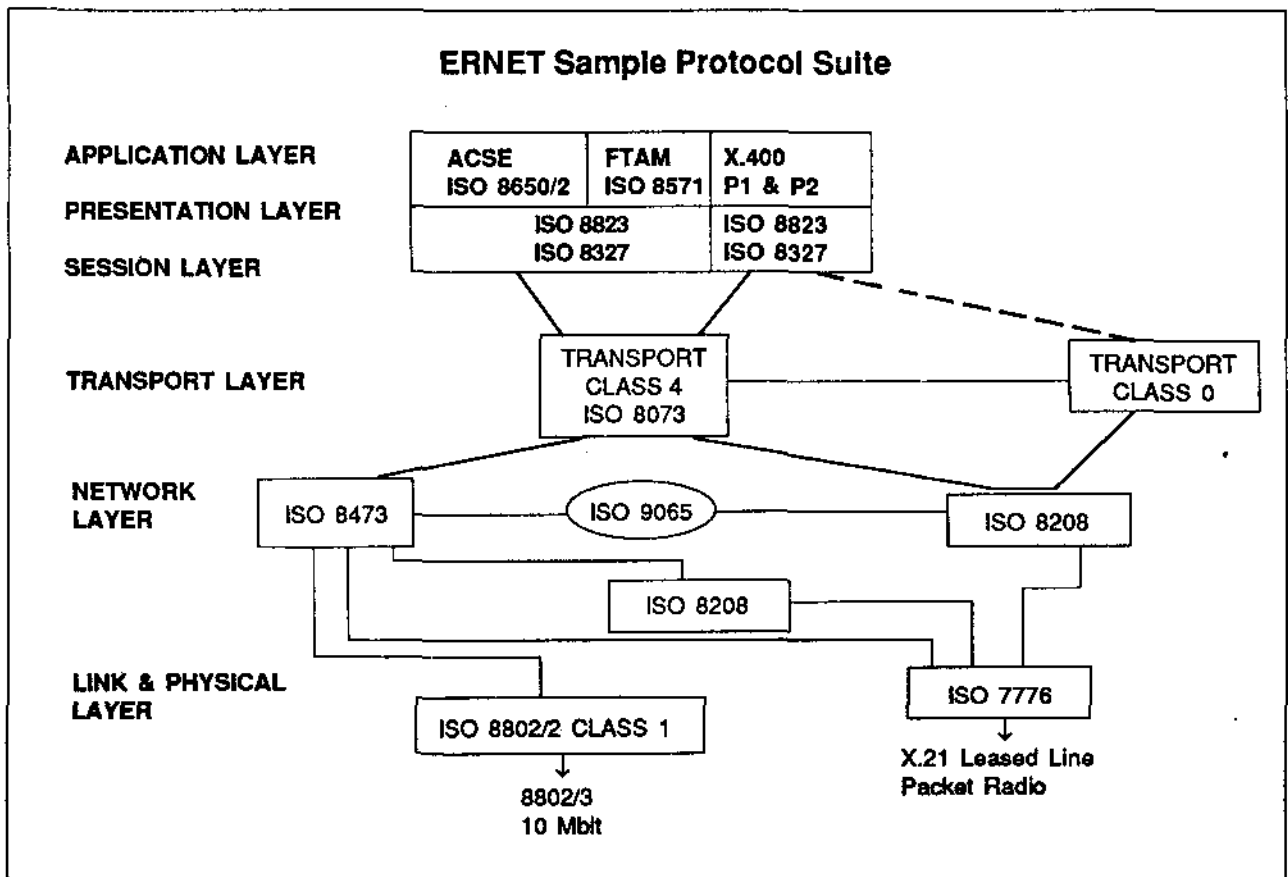
Objectives

The development objective of ERNET is to enhance national capabilities in the areas of design, development, research, education and training on state-of-art concepts of computer networking and related emerging technologies.

Its immediate aims are:

- To progressively set up a nationwide network for academic and research community starting with eight participating premier institutions.
- To undertake design, development and advanced research in emerging concepts of computer networking & related technologies.
- To carry out education, continuing education, training and consultancy programmes to generate critical manpower needed by industry and users in this field.

The strategy is to dovetail the following two to re-inforce each other:



- Build a network infrastructure for academic & research community using state-of-art concepts & technologies
- Undertake design, development, research, education, training & consultancy activities.

Network Infrastructure

Goal

System Engineering of multi-vendor network architecture with ISO protocol suite for the use of academic and research community.

Architecture

Fully based on OSI model and ISO standards

Internet Architecture with campus LANs, WAN and packet radio as main architectural components

Adopt Interim solutions without prejudice to ultimate goals, if they sub-serve achievement of ultimate goals.

Services

- | | |
|-----------------|------------------|
| Electronic Mail | File Transfer |
| Remote log-on | Data-base access |
| Conferencing | |

Sub-Networks

Ethernet (802.3 10 base 5) based Campus LANs at the eight project sites. Multiple LAN segments and, in some cases, non-Ethernet LANs concatenated through repeaters, bridges and routers. Interconnection to WAN through an IP router/gateway. Multiple protocols including proprietary LAN operating systems initially supported with progressive migration to non-proprietary, multi-vendor standards through interfaces at difficult levels.

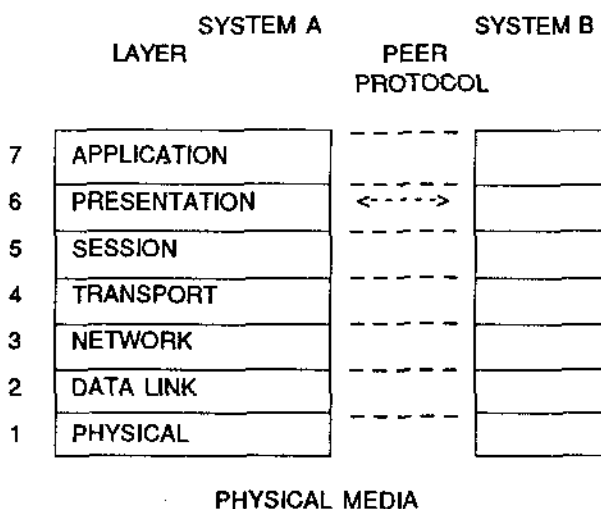
Satellite based Wide Area Network (WAN), currently under implementation to provide connectivity between the eight project sites initially with data rates of 64/128 kbps and support multi-media conferencing capabilities.

Interim WAN, using dial-up lines and UUCP, provides electronic mail capability between project sites since Jan '89. It is connected to campus LAN, at each site and to worldwide academic and

research networks through a gateway at Bombay. Fourteen more academic and research institutions currently connected with mail traffic at 1000 mails/day. Traffic and number of nodes are growing steadily.

Standards and Protocols

Multi-vendor computing environment, operating under various underlying networks, is supported by the adoption of a set of standards and protocols. In ERNET, these are based on the seven layer Open System Interconnection (OSI) model of ISO and the international standards of ISO/CCITT that have emerged or emerging based on this model.



While products conforming to these are not yet widespread even in advanced countries, their introduction is also slowed down by the large installed base of proprietary and de-facto standard solutions in those countries. However, it has given us a unique opportunity to leap-frog the intermediate phase of proprietary and non-standard solutions. Thus, in keeping with the spirit of the project, ERNET would be a test-bed for industry and users in assessing the efficacy of OSI in meeting their requirements.

Layered approach to the network architecture provides for gradual adoption of new standards as they emerge and also enables graceful migration. Message Handling System (MHS) based on X.400 and file transfer based on FTAM are already stable standards and are currently under implementation in ERNET. At the transport and network layers, two divergent approaches have emerged in the international scene, namely, connectionless

(CLNS) and *connection-oriented (CONS)* network layer service with corresponding transport class (Class 4 in the case of CLNS and class 0/2 in the case of CONS). In ERNET it is proposed to adopt TP4/IP, though the final decision will be taken in the light of early experiences.

R&D, Education, Training and Consultancy

Goal

To enhance national capabilities in the field of computer networking and related concepts/technologies with a view to:

Accelerate self-reliance

- Narrow the gap with advanced countries in terms of technology, concepts, products and services
- Support spread of computer networking as a tool in a variety of socio-economic applications to increase productivity, efficiency, competitiveness, quality of services etc.
- To enable competitiveness in Information technology goods and services and aid exports

Strategy

Strengthen research in this field at leading institutions (academic & research)

Identify key areas of international trends in technology & concepts and invest in development groups to address these

Selectively undertake product development efforts to aid indigenous industry/users

Provide laboratory infra-structure, network infrastructure & testing infrastructure as platforms to carry out research, development & demonstration

Encourage collaborative linkages between academia, industry & user groups

Reconcile long-term & short-term concerns as well as capability building and commercial aspects of computer network products & services

Generate capable manpower in this field for industry/users as also provide continuing

education/training for industry/users on state-of-art technologies & concepts

Absorb world-wide developments in this field and disseminate to industry-user so that indigenous products/services/infra-structure remain globally competitive in this field

Maintain international collaboration through strong linkages between academic, research, government counterparts; and strengthen the bargaining position of indigenous industry

Assist Indian users, network providers (Public & dedicated) and industry in absorbing/adopting state-of-art developments and exploiting them to their best advantage in building Information Technology solutions, taking into account price-performance as well as strategic considerations

Catalyse mass applications of computer networks & network based systems, solutions and services

R & D efforts in ERNET can be viewed under three categories:

- Products for technology transfer
- Engineering of network capabilities
- Demonstration of technologies, concepts and research

Products for technology transfer can succeed only through joint efforts with industry, ERNET welcomes industrial participation from conception stage to engineered products to exploit complementary strengths and weaknesses. LAN hardware and software, OSI protocol modules, PAD are examples of products which have reached a stage for initiating dialogue on technology transfer.

A variety of networking hardware and software solutions developed or engineered under ERNET provide opportunities for dialogue with industry and user groups on the merit of alternative technologies/solutions. X.400 MHS, use of fibre optics in LAN, network monitoring and measurement, user interfaces, bridges, IP routers, packet radio, voice mail, low-cost modem are examples of areas where ERNET experience could be of interest to others

Still more, there are areas which require a long-term research approach to develop good

understanding of the key issues involved. Security, network management, directory services, multi-media applications, video conferencing, use of ISDN for computer networking applications, encryption, distributed computing, distributed transaction processing, Electronic Document Interchange (EDI), automatic protocol compilation and verification techniques, conformance testing, modeling, performance analysis, suitability of alternative protocol standards for satellite channels are examples of areas in which ERNET community has research interest.

Participating Agencies

Around fifty full-time engineers with a complement of research associates, part-time faculty members, students and support staff are distributed at the following eight participating agencies:

- Indian Institute of Technology, New Delhi
- Indian Institute of Technology, Kanpur
- Indian Institute of Technology, Kharagpur
- Indian Institute of Technology, Madras
- Indian Institute of Technology, Bombay
- Indian Institute of Science, Bangalore
- National Centre for Software Technology, Bombay
- Department of Electronics, New Delhi

The eight agencies work on complementary areas and problems even while co-operating on issues of common concern and overlapping areas. The network infrastructure itself facilitates such an effort.

Management Structure

A three-tier management structure consisting of Policy Planning Committee (PPC), Apex Programme Coordination Unit (APCU) and Institute Project Monitoring Committee (IPMC) oversees the implementation of the project.

- 10 PPC, functioning under the Chairmanship of Secretary, DOE, includes senior members from Planning Commission, Department of Economic Affairs (DEA), Ministry of Human Resource Development (MHRD), Telecom Commission, Department of Science and Technology (DST), UNDP and office for Project Services (OPS).

APCU, responsible for operational decisions

pertaining to the project, functions under the chairmanship of National Project Coordinator and includes the Institute Coordinators of the Participating Agencies, apart from a member from Telecom Commission, Deputy Financial Advisor (DFA) DOE and the Project Director.

At the respective Institute level, OPMC functioning under the chairmanship of the Director or his nominee, reviews work-plan and project progress of the participating agency from time to time.

Apart from the above, the project is aided by an international panel of experts who meet once a year.

At the project level there are three *working groups* in the areas of LAN, WAN and Protocols, which address technical issues of common concern within the project.

Issues of Common Concern

ERNET values cooperation and collaboration with industry, user groups, R&D groups, other network builders and service providers in a number of areas for mutual benefits. Modalities could include:

- Joint product development
- Technology transfer
- Consultancy
- Education and Training
- Sub-contracting

Standards

Choice of standards for any computer network is an important issue, especially when the standards are still emerging or comparatively recent. Apart from careful selection of the protocol suite, decisions have to be made on functional standards which are needed for implementation. After the implementation, conformance testing and inter-operability testing become key concerns. Performance evaluation forms the last but crucial issue. While ERNET itself has been concerned with these decisions, a national standardisation effort on the above is important to both users and vendors. Considering that ERNET is one of the early networks to adopt OSI, it can provide valuable inputs to national standardisation efforts.

Format Conversion with the CCF Converter

In the past twenty years the bibliographic world has seen the introduction of a number of computer formats based on the standard ISO 2709. These formats include more than twenty national and regional MARC formats, one international MARC format (UNIMARC) and others such as Unesco's Common Communication Format (CCF). We have also grown accustomed to the introduction of computer programs designed to handle ISO 2709-based records, the most important of which is CDS/ISIS, distributed by Unesco/PGL.

Now Unesco is distributing the CCF Converter, a program for MS-DOS micro-computers which is designed to permit the conversion of records from one ISO 2709-based format to another. While there are conversion modules for commercial programs (such as ProCite's Biblio-Links' and INMAGIC's MARC Adaptor and MULTI Adaptor), until now there has been no general-purpose program that could convert records from any ISO 2709 format to any other format.

Components for Record Conversion

The conversion of records from one format to another requires two major components: a computer program, or set of programs, designed to perform the record conversion, and a table of conversion equivalents. The latter item, the conversion table, can be produced by anyone familiar with both the source and target formats. A table to convert UNIMARC records to CCF is provided with the CCF Converter, along with instructions that explain the rules for creating conversion tables.

A generalized program of this kind is not as simple as it might seem at first glance. The CCF Converter was originally developed specifically to convert Canadian MARC records to CCF. During that process, analysis of the data elements revealed that the conversion table must accommodate at least these six kinds of conversion:

1. The changing of content designation without

content analysis, where there are equivalent elements in the source and target formats. For example, the change from tag 111 to tag AAA, or the change from subfield A to subfield B.

2. The conversion of multiple source elements to a single target element, again without content analysis, made necessary by conversion from a large and detailed format to a small, simpler one. For example, fields 111, 222 and 333 in the source format may all convert to target field AAA, which may or may not be repeatable.

3. The analysis of data element content to decide among alternative actions. For example field 111 may convert to field AAA or to BBB depending on whether the first indicator is 1 or 0, or whether a certain subfield is present in the record or not, or some other distinction within the data itself.

4. Various methods of handling repeating elements, depending on whether the target subfield or the field or neither may be repeated in the record.

5. In the case of the CCF, which identifies groups of fields as segments, the creation of the segments. These play an important role in the CCF. Their direct equivalent in the UNIMARC and a few other MARC formats are embedded records, where a field in the record contains an entire related record.

6. The handling of other kinds of exceptional problems, some of which may require extensive and complex record processing.

The Conventional Table

The CCF Converter incorporates all of these functions into a series of process codes. There are currently sixteen such codes, and more will be added as the need arises. The conversion table used by the program is an ASCII file which can be created with any text editor or word processor. Within the table each line forms a record which may have up to six fields. These variable length fields, separated by vertical bars, are the following:

source tag	source subfield	process code	target tag	target subfield	data
------------	-----------------	--------------	------------	-----------------	------

The source or target tag may be omitted if it is the same as the previous one. Process codes may be included, but are not required. If any data is provided, it will appear at the start of the specified target subfield. The vertical bars may appear anywhere on the line.

Here is a typical section of a conversion table:

001		14			
* 010	a	2	100	A	
	b	2		C	
	d	2		C	
* 020	a	2	111	B	
	b	9			
...	etc	...			

In this case the first line consists only of a source tag (001) and a process (14). The second line starts with an asterisk so it is treated as a comment; it is included only for the convenience of the person editing the table. The third line contains five of the six permitted fields; only the field containing constant data has been omitted. This line specifies that subfield a of source field 010 must be converted to subfield A of target field 100 using process number 2, a process which specifies that more than one target field 100 may be created if there is more than one source field 010. On the fourth line both the source tag and the target tag are omitted since they have not changed from the previous line. The line could be moved to the left and made more compact, but it is shown as it appears for the convenience of people. Thus lines three and four could optionally appear as

```
010 | a | 2 | 1000 | A
| b | 2 | | C
```

but few users would find this format easy to use.

Running The Program

The CCF Converter program consists of two files; the execution program itself, and an optional resource file. The latter is an ASCII file which contains the content of all on-screen messages used by the program. Containing these in a

separate file allows them to be translated into any language. The conversion program will run without this file, but in that case all messages will appear in English by default.

Since the program is distributed ready to run on any MS-DOS or UNIX microcomputer, the program is easily started with a single command. *The first step to give command.*

TABLE filename

where filename is the name of the file containing the conversion table. The second step is to give command where

CONVERT file 1 file 2

where "file 1" is the file containing the source records and "file 2" is an empty file which is to contain the target (converted records). Any number of records may be in the source file. The file to receive the target records may be created with the operating system, or with the CCF Converter program. The conversion takes a few seconds per record and the program reports the total number of fields and records converted.

Following conversion the program will display the resulting records or print them, or write the display-format records to another file. The display format is tabular, with tags at the left margin followed by the data, although the records exist in the ISO 2709 communication format with its label, directory, and data fields. The program will also accept a file of records which have been keyed in the display format and convert them to ISO 2709 with the INPUT command.

Future Development

Although decisions on the future development of the program are the responsibility of Unesco/PGI, recipients of the program have requested a number of changes. Since the program deals only with pure ISO 2709 records, facilities must be added to handle CDS/ISIS records, which depart from the standard in a few minor ways. Several people have suggested that the program should use menus, perhaps with colour, rather than the current commands. And a number of other minor refinements would be desirable, such as having the program create files as it works (for example, empty files to receive target records) rather than requiring that the user prepare in advance the files that will be needed — Peter Simmons in *ASTINFO Newsletter* Vol. 5, No. 3, 1990.

International Chemical Information Network (ChIN)

The International Chemical Information Network (ChIN) has been launched this year with the support of UNESCO and UNIDO.

The objectives of ChIN are to:

- * Encourage co-operation in chemical information among chemists and chemical engineers, and to link them in the International Chemical Information Network (ChIN);
- * Promote the development and use of chemical information systems and services, particularly those relating to national development, and to encourage close collaboration of chemical information specialists with researchers, industrial specialists, decision-makers and teachers;
- * Improve ChIN members' awareness concerning new developments and applications of chemical information, in particular databases, information systems and information-handling software in chemistry and related fields, through the exchange of knowledge and materials, as well as by facilitating access to commercially available information sources;
- * Develop goal-oriented programmes and provide a framework for regional and international co-operative pilot projects on the elaboration and application of information strategies for solving problems which involve chemical sciences and technologies, with priority given to developing countries;
- * Propagate the highest possible standards in chemical information whilst recognizing the need for step-wise development towards higher levels of information processing in different fields of application.

The ChIN Programme

The programme proposed for ChIN includes:

Permanent ChIN activities

Introduction and further development of national, regional and international chemical information systems and services will be promoted through ChIN, in particular by:

- * The promotion of access to, and the exchange of information and experience on chemistry information sources, methods and techniques;
- * Setting up co-operative schemes for the exchange of primary documentation, including core journals, patents, grey literature and translations, among the ChIN members;
- * Advising in the building of specialized chemical information systems at the national level and linking them internationally;
- * Co-ordination of ChIN members' efforts to ensure compatibility of such information systems;
- * Providing links to other organizations and groups working in chemical information and related fields;
- * Exchange of information on training programmes in chemical information, co-operation in development of core curricula and methodologies for training users and specialists in chemical information and promotion of recommended training programmes (training of trainers);
- * Production and dissemination of information on available services and facilities within ChIN, through the ChIN Newsletters, the ChIN Directory of Co-operating Institutions and Individuals, and the ChIN Special Series on Chemical Information.

ChIN Pilot Projects

The launching of specific projects for the development, demonstration and dissemination of higher level experience in information processing to serve developmental needs, in particular by

providing efficient support for solving research problems and decision-making, will be a strategic part of the ChIN programme.

ChIN pilot projects will be oriented towards specific high priority targets, in particular those which require the joint efforts of researchers, user of research results and chemical information specialists. Projects likely to result in an essential contribution to economic development will be given priority.

Since such projects usually demand high investment in work and funding, the ChIN Steering Committee will make efforts to establish co-operative schemes with interested national and/or international organizations/institutions. ChIN, as a whole, will offer its contribution to the projects in the form of chemical information, and through the dissemination and evaluation of project results.

Pilot projects will either support chemical sciences as such (e.g. an information system on chemical reactions for research and teaching),

or catalyse developmental actions (e.g. waste-water treatment information system, an information system for small-scale speciality chemicals production, etc.).

ChIN pilot projects will be initiated by the Chin Steering Committee on the basis of proposals of ChIN members and carried out by specialized groups.

Membership

Membership will be open to all institutions and individuals willing to co-operate on a reciprocal, non-commercial basis in the collection, processing and exchange of chemical information, and/or in training, research and development in this area.

Membership will also be open to commercial organizations willing to provide services under special and favourable conditions to ChIN members and, in particular, to users in developing countries.

NISSAT Newsletter

Wishes Its Readers

Season's Greetings and Best Wishes

for a

Happy New Year

Electronic Data Processing Posts: Rationalisation of Pay Scales

In the last issue of the Newsletter (No. 3, 1990), we reported Government's decision on pay structure of library staff under purview of the Central Government as embodied in the relevant OM of the Ministry of Finance, Department of Expenditure (Implementation Cell).

We now bring to our readers Government's decision on the pay structure for Electronic Data Processing Posts. The revised pay scales take effect from 11 Sept. 1989 as announced vide OM No. F.7(1)/IC/86 (44) dated 12 January 1990 of the Ministry of Finance, Department of Expenditure (Implementation Cell).

Copy of OM No. F.7(1)/IC/86(44) dated 11 Sept.

1989 Issued by Ministry of Finance, Dept. of Expenditure, Implementation Cell:

The undersigned is directed to refer to the recommendations of Fourth Central Pay Commission contained in paragraph 11.45 of the Report wherein it was suggested that the Department of Electronics should examine and suggest reorganisation of existing Electronic Data Processing posts and prescribe uniform pay scales and designations in consultation with the Department of Personnel. In pursuance of above suggestion, a Committee had been setup by the Department of Electronics in November 1986. After careful consideration of the recommendations made by this Committee, Government of India has decided to introduce the following pay structure for Electronic Data Processing posts:

Data Entry Operators

Sl. No.	Designation of post	Pay Scale	
1	Data Entry Operator Grade 'A'	Rs. 1150-1500	This will be entry Grade for Higher Secondary with knowledge of Data Entry Work.
2	Data Entry Operator Grade 'B'	Rs. 1350-2200	This will be entry grade for graduates with knowledge of Data Entry work or promotional Grade for Data Entry Operator Grade 'A'.
3	Data Entry Operator Grade 'C'	Rs. 1400-2300	Promotional Grade.
4	Data Entry Operator Grade 'D'	Rs. 1600-2660	Promotional Grade.
5	Data Entry Operator Grade 'E'	Rs. 2000-3500	Promotional Grade.

Data Processing/Programming Staff

Sl. No.	Designation of post	Pay Scale	
1	Data Processing Assistant Grade 'A'	Rs. 1600-2660	Entry grade for graduates with Diploma/Certificate in Computer application.
2	Data Processing Assistant Grade 'B'	Rs. 2000-3200	Promotional Grade.
3	Programmer	Rs. 2375-3500	Direct entry for holders of Degree in Engineering or Post graduation in Science/Maths etc. or Post graduation in Computer Application or By promotion from Data Processing Assistant Grade 'B'.
4	Senior Programmer	Rs. 3000-4500	Promotional Grade.

2. All Ministries/Departments having Electronic Data Processing posts under their administrative control will review the designation, pay scales and recruitment qualification of their posts and revise the same in consultation with their Financial Advisers to the extent necessary as per pay structure indicated in para 1 above. Where it is found necessary to revise the pay scale of existing posts, notification will be issued by concerned Ministry/Department and copy of notification endorsed to Implementation Cell, Department of Expenditure.

3. If as a result of above review, pay scale of any post undergoes a change, the pay of existing incumbents will be fixed as per Fundamental Rule 23 with FR 22(A) (ii).

4. The review suggested in para 2 above will be made only with reference to existing Electronic Data Processing posts and it will not be necessary to create all the grades in all Ministries/Departments, as it will depend on requirements of user department. If Ministry/Department proposes to create any grade which is not existing at

present it will be done with approval of Financial Advisers and subject to procedures laid down for the purpose.

5. The qualifications etc., indicated against each grade in para 1 above are only illustrative and Departments/Ministries will carry out the review of existing EDP posts in accordance with recruitment rules as already prescribed by them. To ensure uniformity in regard to Recruitment Rules for the EDP posts, Department of Personnel & Training is being requested to devise model recruitment rules which can be adopted by Ministry/Department.

6. The pay structure given in para 1 above is applicable to EDP posts as such and not to the cadres of Clerks, Telephone Operator, Telegraphist, Office Assistant, Stenographers etc. who may be utilised partly or wholly for EDP work. Where there is doubt if any post falls in the category of EDP posts, reference may be made direct to National Informatics Centre (NIC), Ministry of Planning, New Delhi for clarification.

7. As regards the recommendations of Committee for pay scales of the posts of Systems Analyst and above, it has been decided to leave it to user Ministries/Departments/Organisations to determine pay scale in consultation with Financial Adviser, keeping in view level of post, duties and responsibilities, recruitment qualifications etc. relevant to the post.

8. National Informatics Centre (NIC), Ministry of Planning will be asked to evolve the job assignment charts for different levels of Data Entry Operators and Programming Staff, which can be

adopted by different Ministries/Department with suitable modification, if necessary, to meet any particular requirements.

9. All Ministries/Department are requested to initiate action on priority basis and results of review reported to Implementation Cell, Department of Expenditure.

Sd/-
(R. D. Bharadwaj)
Under Secretary to the
Government of India

SIS Trivandrum Convention: Programme Details

Programme details are now available for the Tenth Annual Convention and Conference of the Society for Information Science to be hosted by RRL, Trivandrum during 17-19 January 1991.

The Convention theme 'S & T Information Systems and Services; Emerging Trends' will be discussed in six technical sessions as follows:

Session 1 : Parameters involved in the building of specialized information systems.

Session 2 : Existing information systems in India — case studies.

Session 3 : Standard methods in relation to hardware and software.

Session 4 : Information services offered, processes involved, present practices.

Session 5 : Marketing of information products — pricing factor.

Session 6 : Concluding session — Recommendations.

Abstracts of papers to be contributed must reach the Secretary, Society for Information Science c/o PID(CSIR), Hillside Road, New Delhi 110012 by 15 December 1990. Full papers must be submitted by 31 December 1990.

Participation Fee

For Members	Rs 400
For Non-Members	Rs 500

Fee to be sent by bank draft drawn in favour of Secretary, SIS, New Delhi. Participants are expected to make their own arrangements for boarding and lodging in Trivandrum. Information may, however, be requested from Shri K.P. Sadasivam, Local Convener, SIS Convention, Regional Research Laboratory, Trivandrum 695 001.

New Delhi Hosts ICCC 90

Technology for Mass Applications was the theme of the tenth biennial conference of International Council of Computer Communications which was held at New Delhi during 5-9 November 1990.

Prof. M.G.K. Menon, Minister of State for Science and Technology, who inaugurated the Conference, recounted the phenomenal development in both computer and communication technologies which have eliminated the barriers between computers and telephones, voice and data, languages and countries; with the advent of multimedia communication, information handling services have been brought to the point where they are needed most. This opens up enormous possibilities in all sectors of the economy and transfer of knowledge to the masses through distributed data processing, networking and remote access. Prof. Menon noted that the type of information required differed from country to country, but in all cases it was essential that computer networks be used for maximum dissemination of information at a low cost to ensure that the benefits reached the man in the street.

In his keynote address Dr. P.J. Tarjanne, Secretary-General of International Telecommunications Union, stated that the convergence of the technologies and functions has moved computers and communications to centre stage where Information has become the third basic quantity after matter and energy. For information to be of any value, it has to be of the right type, at the right place, at the right time and to the

right person. Information resource centres in remote location can draw from massive data banks through networking and speed up knowledge transfer at a low cost to ensure the upliftment of quality of life for the masses.

Welcoming the delegates from 51 countries, Conference Chairman Dr. P.P. Gupta, Chairman and Managing Director of CMC Limited urged the participants to extend the focus of their interactions beyond the technical sessions to find ways and means to match the needs of the common man with the fruits of information technology.

Mr. N. Vittal, Secretary, Department of Electronics stated that while technology for mass storage is available, innovative and cheaper ways must be found to communicate and provide wider access to this vital information for the development of the masses.

The conference deliberated upon the latest developments in computer communications technology in areas such as Computer Integrated Manufacturing, Intelligent Networks, Video Technologies, Personal Services, Distributed Systems, ISDN, Metropolitan Area Networks and Telematics. The conference discussed ways and means of bringing information technology to the doorstep of the common man by bridging the gap between technology and its mass absorption. While several problems and the ground realities still remain, it was noted that the conference marked a step forward towards fulfilling the goal envisaged.

Men and women who have ideals and objectives before them and the urge to achieve them do not wait for the turn of fortune's wheel.

— Jawaharlal Nehru

18 The man who makes no mistakes does not usually make anything.

— Edward John Phelp

Recent Publications

Publishers are invited to send to the Editor for review and noticing their new publications on information industry and technology, librarianship, documentation, archival science, micrography and reprography, information systems and services, science communication, printing and publishing (including electronic publishing, computer hardware and software, etc.)

Bibliographic Databases and Networks. Proceedings of the International Conference, New Delhi, February 1989. Edited by S.S. Murthy, Anuradha Ravi, A. Lakshmana Murthy, Defence Scientific Information & Documentation Centre (DESIDOC) Delhi. Tata McGraw-Hill Publishing Co. Ltd., New Delhi. Pages xlix + 342. 1990.

A highly successful conference both in terms of professional participation and objectives set and achieved. In view of the lasting interest of the subject and its value to the development and implementation of database and networks, it is indeed laudable that the organizers have been able to bring together in one volume the 21 papers presented at the conference and a comprehensive report of the discussions held. Together the *Proceedings* constitute a valuable reference work which should be much in demand for quite sometime to come.

The Editorial Team led by Dr S.S. Murthy deserves to be congratulated on the painstaking effort which has gone into this useful compilation.

The volume has a neat and impressive get-up and presentation, bearing as it does the stamp of one of the very well-known science publishers in the country, namely, Tata McGraw-Hill Publishing Co. Ltd. New Delhi. — RDT.

Handbook of Libraries, Archives and Information Centres In India, Volume 7, Science and Technology Information Systems and Centres. Editors B.M. Gupta and S.S. Nathan, Aditya Prakashan, New Delhi, 1990, Pages 287, Price Rs 325/-.

It is now widely realized that all horizontal and vertical advancement in any field of science, engineering and technology is dependent on the information already available. At any point of time,

the current knowledge about developments that have already taken place worldwide is the most important input in the research and development (R & D) planning process. However, most Indian scientists and technologists are seriously handicapped in terms of information becoming available to them. They usually get the information of their interest belatedly and they have to make lot of effort to get this information. Because of these limitations, often the information base of Indian scientists is incomplete. Lately, India has been strengthening its science and technology information systems and services. The 7th Volume of the 10 Volume compendium entitled "Handbook of Libraries, Archives and Information Centres in India" edited by Gupta and Nathan deals with the scope, characteristics and accessibility of the information systems and centres currently available in India, in various fields of science and technology. Through the present book the information scientists, librarians and administrators concerned with arrangements to meet the needs of Indian scientists for current information, will come to know about existing sources of information in India and thereby the capabilities and limitations of the existing structure.

The book comprises 36 contributions by more than 56 authors. In the first 35 articles, there is exposition of the ranges of information systems, databases created and services offered by different organizations; the 36th article brings out current status of standardization in information technology.

The book attempts to present systematically the information services being provided by various scientific departments in India. The information activities of National Information System for Science and Technology (NISSAT) of the Department of Scientific and Industrial Research and its sectoral centres such as NICFOS, NICCA, NICMAP, NICDAP, NICTAS, NICHEM and NICRYS, are comprehensively reviewed. Other important institutions and information systems finding prominent coverage include Natural Resources Data Management System (NRDMS), Publications & Information Directorate, INSDOC, DESIDOC, BARC, NICNET, National Management Information System for Science and Technology, Agricultural Research Information Centre of ICAR,

Patent Information System, Tata Energy Research Institute Information System and Bio-information System in India.

It is clear from the contents of the book under review that information systems for scientists remain largely inadequate, though a good beginning has been made in the development of computerized information services. Absence of indigenously produced comprehensive sources of information is a big lacuna in the efforts for progress in India. There appears to be a need at the national level for reorganization of information systems and services to optimise the input of resources and enlarge the output. An effective centralized national comprehensive information system for science, engineering and technology is urgently required, and will provide a major thrust to science and technology development in India.

The present book is well produced. It will be a necessary and useful addition to libraries and information centres catering to the information needs of scientists, technologists, decision makers and planners.

— H.C. Jain

Abstracts of UNIDO Documents on Biotechnology and Genetic Engineering, 1981-1989. Prepared by Industrial Technology Development Division, UNIDO.

This guide lists UNIDO documentation on biotechnology and genetic engineering in developing countries produced during the period 1981-1989. It is composed of abstracts indexed with the major subject descriptors "biotechnology" and/or "genetic engineering" that are contained in *Industrial Development Abstracts: UNIDO Industrial Information System (INDIS)*. The major subject descriptors used are taken from the *UNIDO Thesaurus of Industrial Development Terms*.

20 The following material is indexed: major studies and reports, publications in series, and selected articles; reports and proceedings of expert working groups, workshops and seminars; internal studies; and reports related to technical assistance.

The guide consists of three parts; a subject index, bibliographical abstracts, and author index. The microfiche number, which appears at the end

of each entry, is the computer access number of the item.

Developments in the Field of Informatics In Selected Developing Countries (Technology Trends Series). UNIDO, Pages 40. 1989.

The present report analyses the status and development strategies followed in specific segments of the electronics industry in a group of Latin American and Asian countries (Argentina, Brazil, Mexico, India, the Republic of Korea, Malaysia and Singapore). It is based on previous UNIDO studies and on other documents and reports available on those countries.

The study concentrates on the informatics industry and on components manufacture. Although these branches are rather incipient in the countries considered, they are among the most dynamic segments of the "electronics complex" and seem to offer significant opportunities for latecomer countries. Microcomputers production, for instance, increased in the Republic of Korea at a 90% annual growth rate from 1983 to 1987, and at a 70% annual rate in Mexico between 1985 and 1987. The Republic of Korea recently entered world competition in the field of semiconductors, and captured around 9% of the world market for certain memory chips (256K DRAMs), in 1987.

Interesting developments can also be identified in the six other countries selected for the study. Since the last decade, India is making important efforts in the electronics field, including in the area of minicomputers and semiconductors. Computer sales grew at an average of 70% over 1984-1986. Currently, it is undertaking an endogenous development in the field of supercomputers. Singapore has become one of the most successful international suppliers of computer peripherals and parts, in particular to the United States. Malaysia is one of the largest world producers and exporters of semiconductors. In the case of Latin American countries, Brazil's informatics market is the largest in the Third World; national firms established in the framework of the national informatics policy account for more than 50% of that market. Argentina recently put into execution a policy aimed at fostering local informatics production. Venezuela has been one of the main importers of informatics equipment in Latin America, and reached the highest number of *per capita* computer installations in the region.

The countries selected for this review, have

not been based on any specific criterion. This report highlights the basic strategies followed in those countries and their results. It tries to identify common features and to explain the main differences. Certainly, the diversity in the overall paths and in the context in which the electronics industry has been established, makes it extremely difficult to comparatively assess the successes and failures of different countries. In most cases, there are no in-depth country studies, though the interest created by recent developments is beginning to stimulate new and valuable research.

A point of interest is the extent to which the impressive results obtained by some countries in the informatics and semiconductor fields can be interpreted as evidence of "technological leap-frogging", as suggested by some theories on the emergence of a new "techno-economic paradigm" based on microelectronics technology.

Microelectronics — World Scenario and the Indian Experience. UNIDO. Pages 32. 1990.

The study prepared under the Regional Project for Strengthening Microelectronics Infrastructure and Capabilities in REMLAC Member Countries, was presented at the meeting of the Consultative Group on Informatics Technology for development Buenos Aires, Argentina in December 1989.

The document gives an overview of the world scenario in microelectronics and presents a *blue print for growth of microelectronics in India*. In this connection it draws considerably on the report of the Indo-US Joint Scientific Committee (JSC) which submitted its report in June 1988.

Directory of Professional Bodies. Govt. of India, Department of Science & Technology, New Delhi. Pages 272. 1989

In publishing this volume, DST has made a useful contribution to the process of progress and development by bringing together information on the professional bodies and learned societies in India in various subject fields. These societies provide expert inputs to various sectors of our economy in several ways — by identifying thrust areas in science and technology, and measures for technology development and for promotion of S & T in general. They play a key role in organizing national and international conferences in emerging and frontier areas. Here

their initiative and involvement are particularly noteworthy.

The compilation lists 321 societies, academies and associations. For each entry, information is given on budget and membership of the society, its history, library facilities, publications brought out, meetings and conventions organized, honours and awards instituted, fellowships awarded and other regular activities. The date of establishment of the society is given in parenthesis at the end of the entry.

The Directory will no doubt be useful to the scientific community and help encourage interaction among the societies in allied fields, apart from acting as a catalyst in socio-economic development. There are several omissions in the compilation which hopefully would be made good in a future edition.

Human Resources Development: Analysis of 225 Technical Cooperation Projects with Reference to Strengthening of National Industrial Training and Development, and Transfer of Technology Capabilities. UNIDO. Pages 22, Dec. 1989.

This study analyses UNIDO's technical cooperation in human resource development and transfer of technology, which are two of the main planks of UNIDO's Medium-Term Plan, 1990-1995 (GC. 3/17, paragraphs 24-34 in particular). The link between them is clearly defined in that document.

The primary objective of the human resource development programme of UNIDO is to assist developing countries in building up coherent and sustainable systems for upgrading local *technological skills and managerial and entrepreneurial capabilities* and integrating them into the industrial development process, in accordance with the national development strategies and priority plans of those countries. The emphasis is on linking human resource development and the development and transfer of technology. Under the heading "Development and transfer of technology", the importance of the human resource in the development of national technological capability is repeatedly stressed.

21

In order to analyse the different forms of UNIDO training assistance and their possible impact on strengthening of national training and technology development capabilities, 225 projects

received between 1 January 1988 and 1 September 1989 by the Project Appraisal Section have been classified and examined on the basis of their primary functions (this concept is defined in the *Guidelines for Project Design* of UNDP and UNIDO):

- Fellowships and study tours;
- Institution building;
- Group/direct training;
- Workshops/seminars.

The study concludes that if the objective of UNIDO's industrial training is to enable developing countries to master specific technologies, particular attention must be given to forms of assistance which can have the greatest impact in this area, namely, in the short term, fellowships and study tours and national direct or group training projects and, in the medium and long term, the establishment and strengthening of training institutions contributing to national industrial development. However, the assistance must be selective and integrated. There are 47.2 per cent of the projects that do not relate to any particular industrial sector (annex 1, p i) and it is *a priori* difficult to distinguish the subsectors on which assistance is focused (annex 2, pp. ii-xvii). It would be necessary to make sure that the training programmes set up by UNIDO (the techniques and subsectors involved) and the subsectoral priorities of the developing countries for which they are intended coincide. In other words, emphasis should be placed on "tailor-made" programmes, rather than "ready-made" programmes, and these should be defined in the light of the Medium-Term Plan, 1990-1995, which highlights human resource development and development and transfer of technology, as well as the link between these two forms of assistance, as a UNIDO priority.

Bibliography of Documents Relating to the Development and Transfer of Technology. UNIDO. Pages 110, December 1989.

22 This document covers sales publications, working group papers and other documents issued by the Department for Industrial Promotion, Consultations and Technology between 1 September, 1987 and 31 October 1989. The information was compiled from the UNIDO Industrial Development Abstracts (IDA) database.

The language versions in which each item

was issued are indicated at the end of each entry by the following abbreviations: ARAB (Arabic), CHIN (Chinese), ENGL (English), FREN (French), RUSS (Russian) and SPAN (Spanish).

Information on the technical subjects dealt with in the publications is obtainable from the Industrial and Technological Information Section, UNIDO.

Home-scale Processing and Preservation of Fruits & Vegetables. CFTRI, Mysore, pp 76, Price Rs 15.

The Central Food Technological research Institute (CFTRI), Mysore, has recently brought out the revised and enlarged edition of 'Home-scale Processing and Preservation of Fruits & Vegetables'. Aimed at creating an awareness on the application of modern methods of preparing juice/squash/nectar, canning, drying/dehydration and fermentation at home level, the booklet is expected to be very useful for catering/home-science institutions, hotels, small-scale industries, extension workers, cooperative bodies and housewives. The book gives the broad principles of fruit and vegetable preservation and also the general guidelines for preparation of various products including certain specialized items. Addresses of manufacturers of equipment useful for home-scale processing are also included in the book.

Directory of Online Databases Relevant to Electrochemistry. CECRI, Karaikudi.

The Library and Information Sciences Division of the Central Electrochemical Research Institute (CECRI), Karaikudi, has brought out a *Directory of Online Databases Relevant to Electrochemistry*, containing information on 105 online databases and 16 CDROM databases relevant to chemists/electrochemists. Each entry contains information about a database such as geographical coverage, period covered, type of database, producer(s) of the database, vendor(s), equivalent print products, key terms, main subject, etc. At the end, the following indexes are provided for locating the information fast: producer index, vendor index, print product index, database type index, subject index and keyword index.

The above publication was released by Dr K.V. Mariwala, Chairman, ICMA (Western Region), on the occasion of the CECRI Foundation Day and the Brain-storming Session on Electrochemicals on 25 July 1990.

News and Events

Computers for SSI Applications — CEI Seminar

Prof. T. Viswanathan, Director, Indian National Scientific Documentation Centre, New Delhi, delivered a keynote address on 'Planning and choosing a personal computer system for SSI applications' at the one day seminar-cum-exhibition, organized recently by Confederation of Engineering Industry (CEI), Pune. In his keynote presentation, Prof. Viswanathan spoke at length about how the small scale industrialists should plan and choose a personal computer system for application in their units. He said that while computer can be helpful for traditional applications like marketing, manufacturing and accounting, the SSI units could use them for electronic and voice mail, documentation and filing and even for telex, facsimile videotext and on-line database access. He further added that gadgets such as telex cards and fax cards are available at low cost, which can be used to make a computer function like a *telex machine* or a *facsimile machine*. He also discussed the variety of computers available, their suitability and applications in SSIs.

Indian-French Software Cooperation Project

A major project has been envisaged with the objective of organising the development of software in India initially for the French enterprises and later for other European countries, according to the Embassy of France in New Delhi. The purpose of the project is to create an Indian-French structure, with two settlements, one each in New Delhi and Paris. The two offices will be linked by a permanent satellite communication digital line (64 KB per second, with a possibility of increasing up to 2 MB per second).

The project will offer the following services to French and Indian enterprises:

- assistance to search a partner in the other country.
- assistance for the set-up of the legal and economic mechanics between two partners
- technical infrastructure making it possible, for both enterprises, to exchange data, voice and image through the permanent digital line.

The structure will sell its services to the enterprises.

The French operators of the structure will be Conseil en Systems d'information (CESIA), a state consulting firm specialised in information systems. A large number of French enterprises have shown interest in the project, says CESIA in its project report. The first estimate of the market with large

French companies shows that cost of software developed for them in India will exceed 100 million francs, in the first year.

The main investment for the earth station in France will be funded by France Telecom, which will rent it to CESIA. It is expected that the corresponding earth station in India will be set up by Videsh Sanchar Nigam Ltd. (VSNL). — *MAIT News*, V 3, No. 4, 1990.

6 ICML

The Medical Library Association of India in cooperation with the World Health Organisation, the National Medical Library and the Indian Council of Medical Research sponsored the 6th International Congress on Medical Librarianship and Pre-Congress Seminar during September 24-28, 1990 at New Delhi.

A novel feature of this Congress was a Pre-Congress Seminar entitled "Health Science Information; Impact of Technology Developments on its Production, Analysis, Distribution and Consumption" The Sub-themes of this Pre-Congress Seminar included: The Roles of Publishers/Distributors; Health Sciences Librarians; Computer/Information Technology Personnel; and Consumers/Users.

CONSAL VIII

The 8th Congress of Southeast Asian Librarians (CONSAL VIII), organised by the Indonesian Library Association and the National Library of Indonesia (11-14 June 1990, Jakarta), gathered about 700 participants from CONSAL member countries.

Under the general theme of the Congress: *New challenges in library services in the developing countries*, Dr D.E.K. Wijasuriya, Chairman of IFLA's Standing Committee for Asia and Oceania, presented IFLA's Core Programme for the Advancement of Librarianship in the Third World. A number of technical sessions dealt with subjects such as: information technology, library and information services, library and information resources, manpower development, and preservation and conservation.

The recommendations of the Congress called upon the national library associations to exert greater efforts in:

- strengthening professionalism of library/information specialists
- improving/reinforcing education and training of library/information specialists, using new and more innovative approaches

- increasing the awareness of the importance of library and information activities.

The participants of the Congress further stressed the importance of strengthening the institutional mechanisms at national level and promoting regional co-operation.

CONSAL IX is scheduled to take place in Thailand in 1993.

Access to Scientific Literature in Developing Countries

As an answer to the problem of access to scientific information in the developing countries, a Programme to Promote Access to Scientific Literature is being designed and implemented by Unesco. The Programme is a compound of several convergent actions and methods such as:

- co-ordination of book donation programmes;
- development of library networking and resource sharing;
- use of new technologies such as CD-ROM and telefax for document delivery purposes;
- improving the management of document delivery services.

Unesco, through its General Information Programme, has already been involved in activities for the improvement of scientific document delivery; such activities concern:

- core lists of journals in the life sciences and engineering (1979) and in the earth sciences (1986); a joint IFLA/Unesco Programme for the Universal Availability of Publications (UAP) initiated in 1982; a Pilot Project for Literature Delivery in Asia and the Pacific with the assistance of the National Library of Australia (1989); a *PGI Guide to CD-ROM* published in 1988; an International Conference on the Use of CD-ROM, held in Khartoum, Sudan, in 1990 with the assistance of Unesco; an International Expert Meeting on Training Users organised in Helsinki, Finland, in 1990 by Unesco in co-operation with the Helsinki University of Technology.

The Unesco Programme will be further developed during the coming five years and activities are foreseen by PGI as follows:

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- further development of the Document Delivery Project in Asia and the Pacific. This will be discussed during the ASTINFO Consultative Meeting in 1991.
 - In co-operation with the International Centre for Theoretical Physics (ICTP) and the Third World Academy of Sciences (TWAS), establishment of

a database on book and journal donation programmes. These donation programmes enable institutions and individuals with surplus documentation, to make them available to needy information centres particularly in the developing countries; and, establishment with ICSU of a Co-operative Network on Science and Technical Literature for Developing Countries;

- promotion of CD-ROM publishing. An International Seminar on the Use of CD-ROM and Other Optical Compact Media for the Transfer of Scientific Literature is planned for 1991;
- support for the design and implementation of inter-university information systems and several financial contributions to provide equipment to libraries and training to library and information personnel in document delivery techniques are also foreseen.

Fifty-Sixth IFLA General Conference, Stockholm

One hundred and twenty countries were represented at the Stockholm Conference (20-23 August 1990), "the biggest conference in the history of IFLA" according to Paul Nauta, Secretary-General of IFLA. The 1990 Conference theme was *Libraries—Information for Knowledge*. Topics covered by the Conference included:

- the role of libraries in providing information for developing knowledge;
- the role of the library in educating the people in co-operation with popular movements;
- methods and techniques for facilitating the use of libraries;
- the multimedia library — new ways of transmitting knowledge and skills;
- the fight against illiteracy — the role of the library in developing and developed countries.

The Stockholm Conference offered an extremely rich and stimulating professional forum of librarians from all over the world. The next IFLA Conference will be held in Moscow from 18 to 24 August 1991.

CCF

As part of Unesco's ongoing maintenance and improvement of the Common Communication Format (CCF), the recent meeting of the Ad Hoc Working Group on the CCF (Unesco, Paris, 11 to 13 June 1990) has made significant progress towards the extension and simplification of the format, in accordance with the recommendations and suggestions made at the First CCF Users' Meeting held in Geneva in April 1989.

As regards simplification, the major new features agreed upon are the following:

- five specialised title fields which serve the same

purpose will be reduced to a single field. Specifically, the current fields 220 (spine title), 221 (cover title), 222 (added title page title) and 223 (running title) will be removed and field 230 (other title) will serve as the replacement of all of these. Provision will be made to encode the type of title for those who wish to preserve this information.

- four fields which may be used to show vertical relationships between segments will be reduced to a single field. Specifically, fields 081 (segment linking field: vertical relationship from monograph), 082 (segment linking field: vertical relationship from multi-volume monograph) and 083 (segment linking field: vertical relationship from serial) will be removed, and field 080 (segment linking field: general vertical relationship) will serve as a replacement of all of these.
- a new field 088 (record to record linking) will be developed specifically to link one record with another. Since this field can occur in the primary segment, it permits the creation of a record link without the need to create a secondary segment.

An addendum to the *CCF, 2nd ed.* (PGI-88/WS/2), containing the descriptions of the changed or new fields, is being prepared.

With respect to the extension of the CCF, the Group agreed to produce a new edition of the CCF in two separate volumes; the CCF/B, like the present CCF, will be for descriptions of bibliographic items and will include patents, standards, cartographic materials and research reports; the CCF/F will contain fields used to describe factual entities such as projects, institutions and persons. Priorities for further future extensions of the CCF have been set up by the Group as follows: description of technologies, company data, information systems and services, databases, software, events, training curricula, recorded sound and image.

The principle guiding the extension of the CCF is that, whenever possible, fields shall be used for more than one purpose and for different entities when there is no need to restructure the field concerned. Otherwise, new fields shall be established while maintaining conciseness of the format and coherence of the tagging scheme.

According to the time-table established by the Group, it is expected that the new two-volume edition of the CCF will be published during the first quarter of 1992.

Communication, Information and Informatics — New PGI Division

The Unesco Director-General has decided on the creation of a new Sector — Communication, Information and Informatics (CII) in the PGI. The new

PGI Division will be a merger of the former IPS/OPS and IPS/PGI staff. Mr Wolfgang Lohner has been designated Director of the Division of PGI *ad interim* and Secretary of the Intergovernmental Council.

Rewritable Magneto-Optic Disks

The ability to read, write and erase at will has been realized in rewritable magneto-optic discs.

The ever increasing memory capacity of computers has made it imperative for storage media to keep pace. Emerging magneto-optic technology has opened up exciting possibilities in this sphere. Over the years storage technology has developed from holes punched in paper tapes or cards to infinitesimally small regions of magnetism on recording tapes and related media to microscopic, light-scattering bumps embossed in a compact disk. All along the search has been for greater storage capacity and faster access time with a high degree of reliability.

Though magnetic media are still in widespread use, optical storage offers several advantages. The most important of these is the much greater data density whereby information can be stored compactly in a much smaller space. Being extremely durable and with no chance of a catastrophic "head crash" they are an attractive proposition. CD-ROMs have proved useful as an easier method of distributing published material. However data cannot be written to or erased on CD-ROMs. WORM (Write once read many) disks allow data to be written by users after which it cannot be written into again. The ability to read, write and erase at will while retaining all the advantages of optical storage have been realised in Rewritable Magneto-Optic disks.

Magneto-Optic technology combines the erasability of conventional magnetic storage devices with the ultrahigh capacity, non-contact, no head crash and removability features associated with optical storage devices. In magneto-optic devices a laser beam is used to read, write and erase magnetic information. The write/erase mechanism of magneto-optic (M-O) system is based on a thermo-magnetic process whereas reading data is based on the magneto-optic phenomenon called Kerr effect.

A major advantage of magneto-optic disk is its removability. Due to the noncontact method of recording and the presence of a 1-2 mm transparent cover over the information surface layer, erasable magneto-optic disks are unaffected by dust, wear and other tribology problems that plague conventional magnetic media. Thus they are

sometimes called "removable Winchester" devices and can be used for on-line as well as offline, back-up and data-distribution applications. Since the coercive force to flip a bit is very high at room temperature, there is very little chance of erasing data accidentally.

Efforts to formulate standards on erasable magneto-optic disks have been undertaken at the international level by ISO/IEC Joint Technical Committee (JTC)1. Working Group (WG) 2. of its Sub Committee (SC) 23: Optical Digital Data Disks has been given the task of formulating standards on 130 mm (5 1/4") and 90 mm (3 1/2") Rewritable Optical Disk Cartridges. It has so far brought out Draft International Standard DIS 10089 dealing with 130 mm rewritable optical disk cartridge and Draft Proposal DP 10090 dealing with 90 mm rewritable ODCs. In the national sphere the recently formed Sectional Committee of BIS, LTD 37 Computer Media has constituted an expert Panel to formulate standards in this field. — *IT Standards*, Vol. 3, No. 2, 1990.

The Pen — Mightier than the Keyboard?

A recent nosedive in PC sales growth figures has sent computer manufacturers racing to the marketplace with the next big innovation. The products they will be unveiling within the next couple of years, however, look backwards from the age of the keyboard to a much older communication tool — the pen.

The epidemic rise in computer use has to date taken place mainly in the office. An emerging generation of pen-based computers which can recognise (block printed) handwriting, may mean that non-traditional users, from nurses and sales representatives to freight train conductors, will be catapulted into the microchip age.

Several companies are now preparing to launch notebook-sized computers which can be used for any job that requires filling out forms or composing brief memos.

The new computers — aiming at a potential US\$3 billion market — take advantage of recent advances in computer screens, microchips, and software. When the "pen" touches the screen, it picks up voltage conducted by a special coating on the screen. A microprocessor measures exactly where, and in what order, each pen stroke is made. Then, the chip translates the data into digitized characters. That enables the computer to identify text and numbers with 95% accuracy.

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Once the information is recorded, it can be sent via modem to computers back at the office. By capturing information correctly the first time, billing and other errors caused by sloppy paperwork should be greatly reduced.

An additional market may well exist among executives who could carry a slim computer tablet into meetings, run a few numbers on a spreadsheet, and later transfer data back to computers in the office. The pen-based computer may also one day be a popular add-on to the desk-top machine, as a replacement for the keyboard. In all cases, one of the vital assets of the new machines is that they can be used with virtually no training.

One such machine, produced in the USA and already in the shops, retails at US\$ 1,595. — *Business Week*, May 1990.

IDRC Manual for Records in Bibliographic Information Systems

The International Development Research Centre (IDRC) has published a set of guidelines for creating and maintaining a bibliographic information system using microcomputers. The manual contains a database design using CDS/ISIS (Mini-micro version) as the example software. The main section is a field-by-field guide, with rules for the selection and entry of data in the proposed record structure. Two diskettes containing the CDS/ISIS (Mini-micro version) and INMAGIC record structures and supporting files, as well as a sample database, are included.

Management Ratios of Industrial Information Services

The work and efficiency of a company or organization's information service can be measured by the same methods as the organization's other functions. A successful management ratio system is an important part of the follow-up of an information service's achievements, according to the Fédération Internationale d'information et de Documentation (FID), publishers of this new report.

Management ratios of industrial information services studies the use and effect of management ratios in the successful management of company information services. The report's aim is to give a general view of how management ratios are formed and used, as well as directives and suggestions for management ratios of industrial information services.

Copies of the 40-page report cost 80 Dutch guilders (plus 22.50 Dutch guilders handling charges), with a 25 per cent discount on the sales price for FID members and affiliates. They can be obtained from: FID Sales Department, PO Box 90402, 2509 LK The Hague, The Netherlands (TP + 31 60/31 40 671; TX 34402 kb gv ni; Fax + 31 70/31 40 667).

Asian Food Analysis Network

A network with the objective of spreading information on food analysis in the Asian region has

been formed. The Asian Food Analysis Network (AFAN), which will also encourage interaction and collaboration between food analysts, has come about as a result of the Symposium on Food Analysis in Developing Countries, held in Brisbane, Australia in August 1989. Food analysts from various Asian countries attending the symposium expressed a need for continuing interaction, which could best be met by forming a network.

Initial steps in pursuit of the network's goals will include: (1) the preparation of a list of members, including their interests and analytical expertise; (2) the organization of meetings on food analysis which may also include a hands-on workshop, and (3) the possible provision of "test samples" which could be sent to various laboratories in the region.

Those interested in joining AFAN should write to the network's Co-ordinator, Dr. J. Howard Bradbury, Botany Department, Australian National University, Canberra ACT 2601, Australia. — *Agricultural Information Development Bulletin*, Vol. 12, No. 2.

Revised *INFOTERRA* Thesaurus

Planned for publication later in 1990, the third edition of the *INFOTERRA* thesaurus will be an improved aid for "coming to terms with the environment". Users of the current thesaurus, say its producers, the United Nations Environment Programme (UNEP), will find a number of changes which increase the usefulness of this reference tool. Terminology has been updated, presentation revised and scope deepened.

Like its predecessors, this third edition is intended primarily for use by *INFOTERRA* National Focal Points (NFPs) when specifying the areas of expertise available during the registration of sources of environmental information in their own countries, and when searching for relevant information sources in response to queries received. It will, however, be easier to use.

Improvements will also make the thesaurus helpful as a guide for indexing and cataloguing documents relating to the environment, especially in smaller collections.

The third edition retains the established format; its net increase of 29 terms should be viewed in the context of a turnover of more than 400 terms which were added, deleted, separated or merged in the process of revision. The six years since publication of its predecessor have seen the emergence of many new environmental concerns and concepts, which are reflected in new terms such as "global warming".

The third edition of the thesaurus will be distributed free of charge to all *INFOTERRA* National

Focal Points, and will be available for sale to other interested users. It will be used for re-registration of sources for a new edition of the *INFOTERRA international directory of sources*, to be published in 1991. — *INFOTERRA Bulletin*, Vol. XII, No. 2, 1990.

INTIB Draws on Commercial Databases

The Industrial and Technological Information Bank (INTIB) of the United Nations Industrial Development Organization (UNIDO) has widened the services it offers to members of its global network through agreements for access to two important commercial databases.

Regional and national INTIB Focal Points will now be able to draw on the information resources of the Food Science and Technology Abstracts (FSTA) and METADEX databases. INTIB will receive the databases on magnetic tape and transfer them to diskette using ISIS software, to be run on PCs. The owners of the two databases have agreed to provide monthly updates free of charge, for a two-year trial period.

FSTA is the machine-readable version of the journal of the same title, published by the International Food Information Service. It contains abstracts on all fields of food science and technology. More than 1,800 periodicals are regularly scanned to make up to current total of over 350,000 items, with 1,700 references added monthly.

METADEX is the database of *Metals abstracts*, published by Materials Information. It covers the alloys, intermetallic compounds and metallurgical systems of ferrous and non-ferrous metals, focusing on materials, properties, processes and products. By early 1989, METADEX contained 845,000 records; 4,000 are added each month.

Databases on Library & Information Science

IASLIC has successfully initiated the Project on building up a bibliographic database on Indian library & information science literature, with the support of NISSAT. The data for 1987, comprising 396 records has been transferred to machine-readable form. A by-product of the database is the 'Indian Library Science Abstract' (ILSA), being brought out by IASLIC since 1967. Using the laser print output from the database, ILSA for 1987 has now come out in new attractive format, and includes an intensive PRECIS index. Updating and retrospective conversion of ILSA records is also contemplated.

Ivy Systems' LibRA

LibRA, a useful and interesting software package, is an addition to the indigenous software packages currently developed in India. While other packages are

oriented to IBM PC compatibles, LibrA is on Apple Macintosh family of computers.

LibrA exploits the simple user interface and the networking facilities available in Macintosh. It is simple to use, multi-user and brings the professional staff of the library and the library users closer through an E-mail facility. Further, LibrA permits creation of records for both print and non-print items (microform, machine-readable form, A-V etc.) and is also multilingual. If a library has a wide ranging collection in different languages, Indic, European and non-European languages (Chinese, Japanese), records can not only be created but also can be retrieved in these languages. This feature, it is believed, has not been offered in other library packages on personal computers.

Keeping in view the basic objectives of Library automation, namely, to enhance the use of a library, LibrA has been divided into five subsections which work in an integrated fashion. These are: Acquisition, Cataloguing, Circulation, Serials, On-line retrieval, and Administration

The Administration section facilitates customization and controls the working of all the other subsections.

LibrA is presently used in the Shanta Rakshita Library, Central Institute of Higher Tibetans Studies, Saranath, Varanasi.

Apart from the automation of all the normal house-keeping operations, a unique feature of LibrA is the facility it offers for the creation of an integrated database of the library's holdings. This database could include not only macro level documents, but also analytical entries for chapters/parts/sections of monographs, journal articles, conference papers, etc., with annotation/abstracts, information on products and processes and such other micro level items, irrespective of their physical forms. This integrated database is available on-line to users to search for their information requirements. This feature is particularly useful to special libraries to develop project information files, local documentation and information services, etc.

In addition to these, LibrA facilitates circulation services including interlibrary loan, routing of current issues of journals to select members, SDI, regular indexing and abstracting services, literature search, etc. For further information, contact Ivy Systems Limited, E-5, Qutab Hotel, New Mehrauli Road, New Delhi-110 016.

CODIN Launched

India's first computer-based information service on electronic components was launched on September 11, 1990.

The Minister of State for Science and Technology, Prof. M.G.K. Menon, inaugurated the system called CODIN, which would make available technical information of about 3000 components to professionals.

Speaking on the occasion, Prof. Menon stressed the need for indigenous production of all components required for various industries.

He said it was essential to develop information base as it would help decision makers, designers and manufacturers to act without any delay.

He also stressed the need for efficient testing facilities and standardisation of products manufactured in India. Quality control was essential for the Indian-manufactured products to compete in international markets, he added.

Centre for VLSI Design with UNIDO Assistance

Local development and production of electronic equipment can be promoted through a national capacity to design, prototype and manufacture very large scale integrated (VLSI) circuits.

With this in mind, UNIDO has begun executing a \$2.5 million project, financed by the United Nations Development Programme, to assist the Government of India's Department of Electronics (DOE) in establishing a Centre for VLSI Design and Prototyping, which is expected to act as a focal point for VLSI design and to co-operate with research laboratories, micro-electronic component manufacturers and educational establishments. The project is part of a much larger government strategy aimed at raising the level of Indian electronics products to a level where they can compete internationally. At present, approximately half of the semiconductors produced world-wide are in the form of micro-electronic devices. In contrast, micro-electronics production in India amounts to only 0.5 per cent of overall electronics production.

Large scale and very large scale integrated circuits (LSI/VLSI) are recognized as vital ingredients of contemporary electronics equipment. This area has recently witnessed the emergence of application specific integrated circuits (ASICs) as the fastest growing (annual growth rate of 25 per cent in world markets) segment of the semi-conductor industry which itself is expected to grow at an annual rate of approximately 15 per cent in the 1990s. Availability of powerful work stations and computer-assisted design (CAD) tools have enabled the design of ASICs to be separated from the silicon foundry which can even be in a different country.

Taking advantage of this development, the Department of Electronics has embarked on a comprehensive programme for promotion of the use

of LSI/VLSI and ASICs, with the focus on design. A three-level framework consisting of nodal centre for VLSI design at DOE, level II semi-custom design centres at universities and laboratories, and level III CAD awareness programmes at engineering colleges has been approved and is under establishment. In addition, DOE is setting up 10 LSI/VLSI design centres to cater to the needs of the electronics industry.

The Centre for VLSI Design and Prototyping will act as a national resource centre for VLSI/ASIC design, testing and software development. The Centre will periodically offer short training courses aimed at bringing staff from the 10 design centres as well as the level II institutions up to date. It will also serve as an interface between the designers and silicon foundries in India and abroad.

The present project will focus on training the staff of the Centre through fellowships and hands-on training by consultants. These consultants will also assist with the installation of equipment worth \$1.2 million and provide advice on design projects. They will also advise on matters of concern to the overall programme.

MINISIS Version H

A new and improved version of the MINISIS software is due to be made available late in 1991 by the Canada-based International Development Research Centre (IDRC). The update—dubbed Version H—will be able to run on microcomputers (PC XT/AT) or 100 per cent compatible) as well as the HP 3000 Series minicomputer. It will provide a totally integrated relational database system with a userfriendly interface.

A special feature of Version H will be a 4GL language development tool called the Application Specification Toolbox (AST). The Centre's Computer Systems Group (CSG) will use this to develop applications for version H; it will subsequently be offered to users to enable them to develop their own or modify existing applications.

Applications currently being developed by CSG are: the Standard MINISIS Application (SMA); the Inter-Agency Development Research Information System (IDRIS), and the Integrated Library System (ILS). SMA will incorporate all of the functions of MINISIS Version G.—*MINISIS newsletter*, No. 1, 1990.

ICSTI International Symposium

To celebrate its 40th Anniversary, the International Council for Scientific and Technical Information (ICSTI) announces an International Symposium *Squaring the Information Circle* hosted by the Institut de l'information scientifique et technique du Centre

national de la recherche scientifique (INIST/CNRS) during 13-15 May 1991.

Topics: Changing roles in information transfer; new relationships between publishers, database producers, host systems and users; new products for new needs; role of S&T information in scientific policy making.

Sysman Computers: Projects Implemented

Sysman Computers P Ltd., Bombay report implementation of two projects in the field of Computerisation of large Databases and Library Management. These are 1) Computerisation of CHEMTECH databases, and 2) Computerisation of library for MTNL.

1) *CHEMTECH Databases*—Sysman Computers and CHEMTECH Foundation have jointly developed two large databases, namely, Environmental database and Industrial database.

The Environmental database contains data on over 10,000 industrial chemicals. Each chemical data is divided into 8 main groups and 89 sub-groups. The major groups are:

- Identification and Usage
- Hazardous ingredients
- Physical data
- Fire and explosion hazards
- Reactivity data
- Toxicological properties
- Preventive measures
- First aid

These 8 Main groups are further divided into 89 sub-groups. Each sub-group provides information on a specific trait of a chemical such as Road transportation, Effect on skin or inhalation, etc. The total record length of each chemical record is about 35 KB. The database contains all information as required by Department of Chemicals and Department of Environment.

The Industrial database will finally have data on over 6000 industrial units engaged in chemical, petrochemical and allied fields. The major modules in this database are

- Company information
- Location information
- Product information
- Raw material information
- Collaboration information
- Export/Import information
- Personnel information

Attempts are being made to collect maximum data for each Company. Currently, data on 500 companies is available. A number of reports can be

generated based on any combination of data as per requirement.

Software for both these databases are developed in UNIFY RDBMS on UNIX operating system with financial assistance from Department of Petro-Chemicals, Government of India. Any member of Foundation or other interested person can access the databases on payment of nominal fee. Efforts are on to provide these databases on CD-ROM.

2) *Computerisation of Library for MTNL* — Library management at MTNL has been computerised using software developed in FOX-BASE database on MSDOS and NOVELL LAN in multiuser environment. At present it is fully implemented at Regional Telecom Training Center of MTNL at Bombay. The future plan is to computerise all other libraries of MTNL and link them all at each city using WAN/LAN.

The system takes care of issue, return, re-issue, waiting list for both books and periodicals. It also provides for synopsis for any book or article. All departmental circulars are also provided in the system. The system prints reminders and intimations. Over 25 reports can be printed or displayed on screen. The system can search any book against a name or part of a name anywhere in the title or author.

The system is fully on-line and implemented under LAN. Further inquiries can be made at SYSMAN Computers P Ltd, 7 Habib Terrace, Dr. Ambedkar Road, Lalbaug, Bombay 400 012.

Dictionary of LIS Professionals

A biographical dictionary of library pioneers, librarians, teachers and information scientists who have contributed to the development of the profession is proposed to be brought out by the Central Institute of English & Foreign Languages, Hyderabad.

Professionals who have crossed the age of 60 years are requested to cooperate in this project by supplying the following information with a passport size photograph: Date of birth — parentage and childhood, academic vitae, experience/service, contribution to the profession, recognitions and awards, address, phone number, etc. and references for further reading.

The above information may be sent to Shri L.S. Ramaiah, Librarian, Central Institute of English & Foreign Languages, Hyderabad 500 007.

Informatics Appointed Agents for BLDSC

The British Library Document Supply Centre, U.K. (BLDSC) Boston Spa have appointed Informatics (India) Pvt Ltd, Bangalore as their official agents to promote BLDSC publications and CD-ROM Products, international loan services and photocopying services in India. For details on how users in India can avail themselves of these services, contact Informatics (India), PB No. 360, No. 87, 11th Cross, Malleswaram, Bangalore-560 003.

Ulrich's Directory on CD-ROM

Ulrich's International Periodicals Directory comprising more than 72,000 regularly issued periodicals + 46,000 irregular serials is now available on CD-ROM. Cost £ 360/- (quarterly updates).

EASYNET in India

EASYNET is now available to subscribers in Bombay, Bangalore, Hyderabad, Madras, Pune and New Delhi. Through the *Videsh Sanchar Nigam Ltd* (VSNL), connection can be made by a local telephone call to EASYNET, which provides access to more than 1,500 databases, both bibliographic and non-bibliographic. By adding 2 modems to your personal computer-phone system, plus communication, annual password, and database charges, you can enjoy online, user friendly access. Dedicated lines are also possible. EASYNET includes 12 database hosts (vendors) such as DIALOG, BRS, HW Wilson, NEWSNET, and others.

IASLIC XIV National Seminar

The XIV National Seminar of the Indian Association of Special Libraries and Information Centres, hosted jointly by the Department of Library & Information Science and the Library of the University of Mysore was held during 14-17 Nov. 1990.

The seminar theme was: 'Status and Authority of Library Profession in Library Management.' Proceedings will be reported in the next issue.

EEC Bursary for Dr A. Lahiri

Dr A. Lahiri, Jt. Adviser NISSAT (DSIR) has been awarded a senior scientists' Bursary under the Indo-EEC Programme for a period of six months. Dr Lahiri will work with EURONET-DIANE, Luxembourg on Development of an Indian model for database services. He left for Luxembourg last October.

IMPORTANT

NISSAT Newsletter : Mailing List Revalidation

In order to update our mailing list we ask you to fill in the form below and return it by 31 Jan. 1991.

To ensure the most efficient use of our resources, we wish to remove from the mailing list those who do not reply.

We would also like to know what you think of the *Newsletter*

Please mail the form to : Dr. A. Lahiri, Jt. Adviser, NISSAT (DSIR), Technology Bhawan,
New Delhi 110 016

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Institution/Library/Name:

Address:

Your Comments:

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