Informatics

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Wireless Access to NICNET

NICNET is a VSAT based network. All the metropolitan cities, State capitals and important towns are connected to NICNET through high speed VSAT backbone. In each of these locations, NIC computer centres and NICNET users are located at scattered places. NICNET connectivity is extended to these NIC Centres and Users from the place where VSAT Backbone terminates using various technologies available for local access.

Till recently, local access was being provided only through Dialup, Leased lines and ISDN available from DOT/MTNL. Depending on the line quality, Dialup connection can work from 1200 bps to 28.8 kbps. This kind of connectivity may be good for individual users but it is not suitable for connecting large user groups. To ensure higher speed and better line quality, ISDN is now available in many cities. For applications which require constant access to the network, leased lines of various speeds are being used. Leased lines are expensive and may not be available at all the places. Moreover, it takes a considerable amount of time to get a leased line.

With advancements in the field of Information Technology, many new applications have come up, which essentially require high speed and reliable network connectivity. The quality of network services significantly depends on the quality of local access. ***It is with this view of providing high quality, high speed local access to its users that NIC decided to use 'Hub based Spread Spectrum Wireless Access Networks'.***

The Technology

NIC's wireless data networks are Hub based. Hub being a central point for communication, all communications are directed through the Hub. These Hubs are located at NIC offices where they are connected to NICNET through a high speed port. Each Hub capacity is 2 Mbps which is shared by all the users (Remotes) communicating with it over wireless medium. By limiting the number of Remotes and by studying traffic patterns, it is possible to ensure high speed connectivity.

The Remote Equipment of the wireless data network has to be installed at the remote end at user premises. The Remote Equipment and Hub communicate over wireless medium at all the time ensuring constant link availability.

The Hub based wireless data network uses Spread Spectrum (Direct Sequence) wireless technology and operates in 2400 MHz to 2483.5 MHz frequency range. The technology is highly interference

resistant which ensures availability of robust wireless link all the time and provides high level of security. In addition to the security provided by Spread Spectrum technology, availability of Network ID and Encryption makes the wireless link highly secured.

The Link Feasibility

To make a wireless link operational, direct line of sight between Hub and Remote antenna is required. If there is no direct line of sight available, possibility of making a link operational through a suitably located wireless Repeater is explored. The Link may not be feasible for a variety of reasons, such as :-

- The aerial distance from Hub being more than 12 Km
- Non-availability of a suitable repeater location
- Terrain may be difficult not allowing radio signal to reach Remote
- Location of Remote equipment in a building which may require too long a RF Cable
- Not getting permission for installation of a mast of required height for antenna

In such cases, alternative technologies like VSAT and Leased lines may have to be explored.

Wireless Connectivity Options
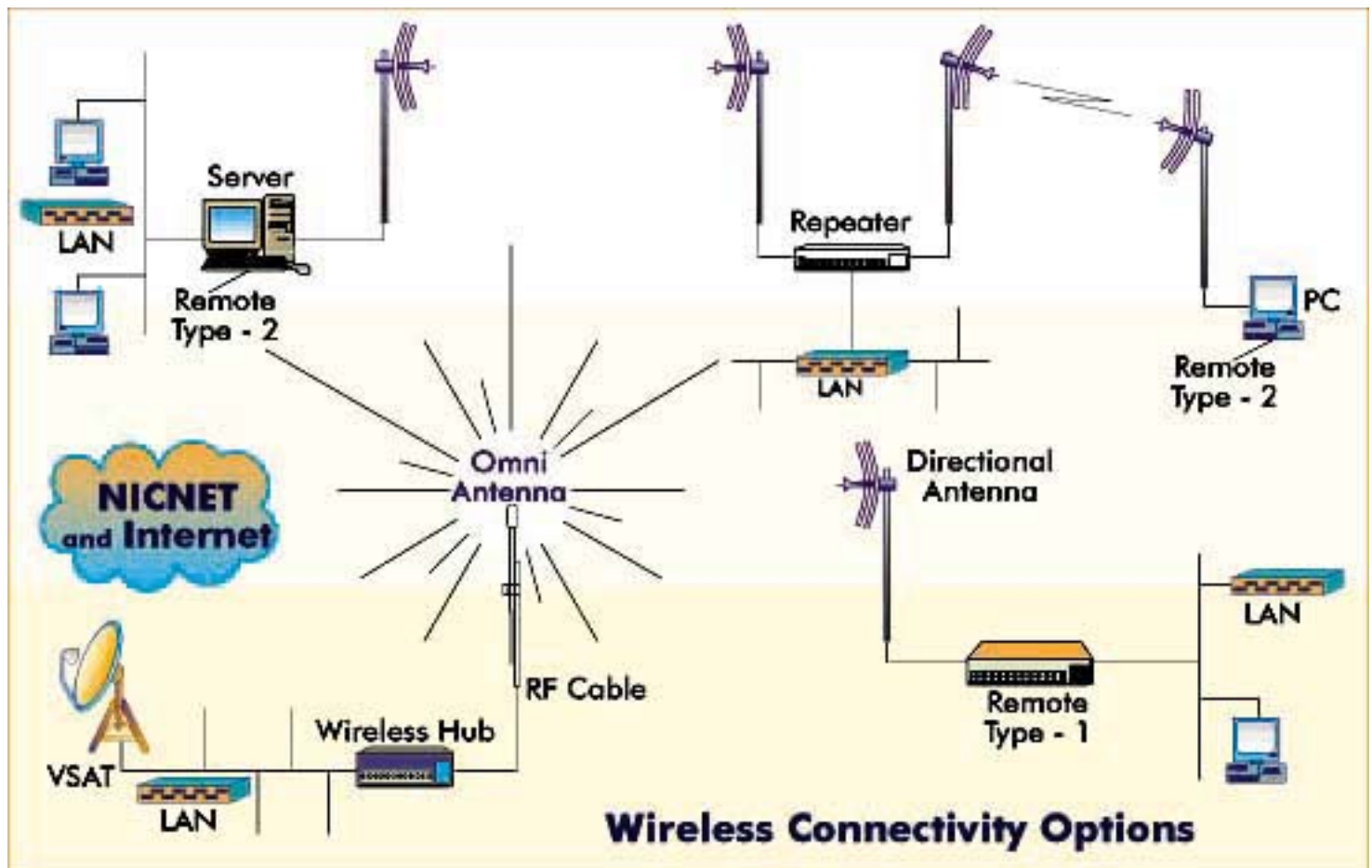
The Remote Equipment

The term "Remote Equipment" refers to the equipment installed at the user premises and connected to users' LAN or computer. To suite the requirements of various users, two types of Remote Equipments are offered viz. **Type-1 and Type-2.**

Remote Equipment (Type-1) is a stand-alone equipment consisting of Radio Interface, LAN Interface and Power Supply. The Radio Interface is for connecting RF cable from antenna. LAN Interface is for connecting wired Ethernet LAN. The equipments works as a Bridge which filters out local traffic and forwards only packets meant for going outside the user's Intranet.

Remote Equipment (Type-2) is in the form of a PC/AT, ISA Card which can be installed in any computer of PC architecture and having ISA bus slot. The Type-2 equipment is not a stand-alone equipment and requires a computer for its operation. The equipment has a Radio Interface for connecting RF Cable from Antenna. Drivers for all the popular Operating Systems and Network Operating Systems are supplied along with the Equipment. By installing a Type-2 Equipment in a PC with appropriate Driver, the PC can have wireless access to NICNET and Internet. It is also possible for all the users of wired LAN to have simultaneous access to NICNET and Internet using Type-2 Equipment. For this, Type-2 Equipment may be installed in the Server running Network Operating System with appropriate driver software and Server may be configured to route all packets for NICNET and Internet to the IP Address of Type-2 Equipment. It is also possible to create a gateway for NICNET and Internet for wired LAN by installing the Type-2 Equipment with appropriate drivers in a PC which already has a Ethernet card connected to LAN. The PC can then run a routing software or Proxy Server.

The Installations

So far NIC has installed Hub based Wireless Access Networks at Delhi, Hyderabad, Bangalore, Agartala and Warana Nagar providing NICNET and Internet access to seventy remote locations. These Remote locations have LANs with large number of nodes. Installations are in progress at Lucknow, Chandigarh, Jaipur and Shillong. In Delhi, almost all the major NIC computer centres located in different buildings are now connected by wireless links. There are many NIC computer Centres in each of these building sharing one wireless link. In such cases, wireless access network provides an effective and low cost local access solution.

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The Advantages

- The access speed of NIC's hub-based wireless access network is faster as compared to various other technologies in use.
- The cost involved is much lower than the cost of VSAT and Leased Line access of comparable performance.
- Lower costs also lead to lower annual maintenance charges.
- There are no associated recurring charges for using the transmission medium.
- The equipment directly gets connected to LAN or PC and does not require expensive internetworking equipments.
- Implementation can be done quickly in days and weeks as against waiting time of months to years for leased lines.
- Uptime of wireless network is much better than leased lines and any breakdown can be quickly fixed as the network is under NIC's administrative control.
- All the clearances and approvals for operation of a wireless network are taken by NIC. Users are not required to take any clearances and approvals.

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The cost of providing a wireless link is solely dependent on various equipments used to make the link operational which is in turn dependent on the location of the site with respect to Hub location. Thus the cost factor may be different for different sites.

The Future Plans

It is planned to install Hub based Wireless Access Networks in all the State Capitals and important towns. This will provide most of the NIC users a high speed local access. Cities where Hubs are operational have more requirement for the Wireless Remotes. By adding more Remotes and by installing more Hubs in these cities, the Wireless Access Network will become a high speed Metropolitan Area Network.

NIC also plans to use the wireless equipment for providing point to point connection between two buildings where it is difficult to put wires. Wireless solutions are also to be used for in-building LAN in 'difficult to wire' buildings where roaming is a requirement for quick and temporary LANs.

Requirement for higher data rates is already being felt for which plans are there to use Laser Links which can give data rates from 20Mbps to 155Mbps and high speed wireless links on heavy data traffic routes. As this technology area is fast evolving, NIC plans to use the latest technology for

providing cost effective solutions.

For further details, please contact :

Wireless Terrestrial Communication Division (WTCD)
National Informatics Centre
A-Block, C.G.O. Complex
Lodhi Road
New Delhi - 11 00 03
Tel No.- 91-11-4363389
Fax No. - 91-11-4362628
Email : hpsharma@hub.nic.in

Note :
For related story on Networking Technologies,
refer to Informatics Vol.6 No.4 (April'98) issue.

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LIVESTOCK CENSUS CONDUCTED

Gangtok : The sixteenth 'five -yearly' Livestock Census was recently conducted in Sikkim. The job of processing the mammoth data and generating reports was carried out by the NIC Sikkim State Unit.For this purpose, a software titled **'Livestock Information System'** was developed by NIC-Sikkim.This software generated the reports at District and Sub-Divisional level . The census data is expected to prove helpful in formulating better policies for the livestock sector in the State.

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TECH-EXPO'98 HELD AT DHANBAD

Dhanbad : A Seminar-cum-Exhibition "TECH-EXPO'98" , organised by the Computer Society of India (CSI) was recently held at the Central Mining Research Institute, Dhanbad, Bihar. Dr. Lalan Kumar, District Informatics Officer, NIC Dhanbad, was the Convener cum Chairman of the Organising Committee.

The NIC District Unit of Dhanbad actively participated in the programme, the theme of which was "Recent Trends & Advances in Information Technology". The paper presentation event of the seminar was a great success with around 32 papers presented on various topics related to the on-going developments in computers.

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INAUGURATION OF 'CARD' SOFTWARE

Hyderabad : The Andhra Pradesh State **Unit of NIC has developed a 'Computer Aided Administration of Registration Department (CARD)'** System for facilitating computerization of State Government activities.
The salient features of the system include the following :

- Computerized valuation of properties.
- Completion of the registration process within 30 minutes.
- Computerized Public Assistance Counters.
- Sale of Stamps Accounting.
- Issuance of Encumbrance Certificates and certified copies across the counter.
- Copying, preservation and retreival of documents using Imaging Technology.
- Replacement of manual systems involved in maintenance of various registers and indices.
- MIS Support.

The software was formally inaugurated by the Chief Minister of the State Sh.N.Chandrababu Naidu at Hyderabad.

Smt.Alamalu Suresh (NIC, Hyderabad) receiving a memento from Chief Minister, Andhra Pradesh at the inauguration function

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CROSS DOMAIN TRAINING AT PUNJAB

Chandigarh : The concept of cross domain training involves familiarizing the experts in one functional area with the knowledge of another area and vice-versa. Such cross domain training was recently organized in Punjab between the NIC Officials and the Officers of the State Revenue Department. The aim behind the training was to make the implementation of the Land Records Computerization (LRC) Project in the State smoother, with computer experts gaining knowledge of revenue concepts and revenue experts learning computers.

As a part of this programme, carried out at both the State and District levels, a training course of one week duration was organized for all the NIC District officers on "Revenue Concepts and Procedures" at Mahatama Gandhi State Institute of Public Administration (MGSIPA), Chandigarh in July 1998.

To involve the field level user staff, a training programme of two weeks duration was also organized for the revenue officials on the computer concepts and usage of Land Records Software. During the training, Tehsildars, Kanugos and Patwaris learnt about computer operations covering general concepts, word processing, Email etc.

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FINANCE DATA CENTRE INAUGURATED

Patna : A new computer centre named "Finance Data Centre" has been established at the main Secretariat Building in Patna, Bihar. The main aim behind the setting up of the centre, managed by the staff of the C.S Cell of NIC, is to help build the necessary infrastructure for the computerization of the Budget preparation process in the State. The centre, set up with the active help of the State Finance Department is equipped with the latest in terms of software and hardware. All these resources were effectively utilized to integrate for the first time, the raw data processing power of an RDBMS, the page lay-out and publishing power of a DTP package and the preparation of pre-press film for the printing of the Budget document.

The future plans with regard to the Finance Data Centre include the setting up of a web server to host the Annual State Budget.

The centre was inaugurated some time back by Smt.Rabri Devi, Chief Minister, Bihar at a special function.

Smt.Rabri Devi (Chief Minister Bihar) inaugurating the Finance Data Centre. Shri. Tekriwal (State Finance Minister) is on the left.

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INFORMATION SUPER HIGHWAY INAUGURATED AT LAKSHADWEEP

Kavaratti : The "Information Super Highway" and Internet facilities installed at National Informatics Centre, Kavaratti, Lakshdweep were recently inaugurated by Shri.Rajeev Talwar,IAS, Administrator of the Union Territory of Lakshadweep, at a function held at Lakshadweep Secretariat, Kavaratti. The senior officials of the Lakshadweep Administration, other Central Government establishments and elected representatives of District and Dweep Panchayats were present to grace the occasion.

With the commissioning of this facility, Lakshadweep has been connected to the rest of the world through 'information super highway'. This has been made possible with the installation of the state-of-the-art high speed VSAT (IP-Advantage) at National Informatics Centre, Kavaratti.

Inauguration of Information Super Highway at Lakshadweep

After the inauguration ceremony, a demonstration of Internet was also held before the distinguished guests. Especially at a place which is totally cut off from the mainland and the rest of the world due to its geographical setup, it was an exciting experience to see the Internet editions of the leading National dailies and magazines of the world unfold.

To share the hands-on experience, NIC Kavaratti also conducted a "Live Internet Sessions Week" from 27th July 1998 to 1st August 1998 for the government officials of Lakshadweep.All the senior officers of the Administration of Union Territory and of Central Government actively participated in the Session .

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DISTRICT COURTS COMPUTERIZATION IN HP

Shimla : The District Courts Computerization in Himachal Pradesh was recently inaugurated at the District Court, Shimla by Sh.Doraiswamy Raju, Hon'ble Chief Justice of Himachal Pradesh High Court. The Daily List of Business (cause list) is now being generated through the computerized system.

Justice Doraiswamy Raju (centre) at the inauguration
of the District Courts Computerization in Himachal Pradesh.

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WEB SITES LAUNCHED ON NIC'S WEB SERVER (http://www.nic.in)

Delhi : During the recent months, some important and interesting web sites were launched on the NIC web server. Given below are the highlighting features of some of the major web sites released recently.

NSIC
http://www.nic.in/nsic

The web site of National Small Industries Corporation Ltd (NSIC), designed and developed by NIC provides information about the Organization's activities, financial and marketing services, exports, technical services and training programmes. Apart from this, it also carries details of various trade fairs, exhibitions, seminars and conferences organized by NSIC. An important feature of the site is information about "NSIC Software Technology Park" which caters to the needs of entrepreneurs establishing software export units in India.

MINISTRY OF RURAL AREAS & EMPLOYMENT

http://www.nic.in/rural

The web site of the Ministry of Rural Areas & Employment contains in-depth information about the overview, organizational structure, budget provisions and "who is who" of the Ministry. It also gives detailed information about the objectives, funding pattern, guidelines etc. of each programme/scheme of the Ministry. The web site was formally inaugurated recently by Sh. Babugauda Patil, Minister of State (Independent Charge) in the Ministry of Rural Areas and Employment.

IGNCA
http://www.nic.in/ignca

Indira Gandhi National Centre for Arts (IGNCA) is the nodal Government organization involved in the study of various forms of art depicting the Indian cultural heritage. The web site of IGNCA contains a complete profile of the organization and its various functional divisions. The site also contains a Reference Library and an Information Data Bank to provide details about various aspects of Indian Art and Culture.

TRADE-NIC
http://www.nic.in/tradenic

This aesthetically designed site, developed by NIC, acts as a comprehensive on-line **"Indian Trade Resource"**. It provides information about organizations associated with different aspects of such as Trade Support, Trade Promotion, Trade Regulation, other Trade Organizations in India etc. The site also contains a search facility whereby desired information can be searched using key words.

ALMORA
http://www.nic.in/almora

The picturesque district of Almora in the Kumaun Region of Uttar Pradesh has now been annexed to the Global village through its attractive web site. The site contains informative text and beautiful photographs of the District which is a famous tourist destination. Information about the Kumaun region, the cultural heritage, places to see and prominent visitors is also included in the site.

Products/Services

- **Payroll Processing Software in HP**
- **Gradation Lists of Assistant Surgeons in MP**
- **Computerized Photo Ration Cards at Udaipur**
- **Ready Reckoner for Stamp Duty Calculation**

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Payroll Processing Software in HP

A Payroll Processing Software has been recently developed by the NIC Himachal State Unit. Though the software was originally developed under Unix environment, an executable version under DOS/Windows was later developed for convenience. Several State Government departments have implemented the Payroll Processing System and at present about 15 percent of the total employee strength in Himachal Government i.e. over 20,000 employees have been covered by it.

The salient features of the software (version 2.0) is that besides generating the Paybills, Schedules, Acquittence Rolls and Pay Slips, it generates additional outputs such as Pay Arrears Bills, Nominal Rolls for making Budget Provisions, Income Tax Returns for individual employees, Voucher-wise / Employee wise payments and Deduction Reports etc.

All the Reports being generated by the software have been officially notified by the State Government to be accepted by the Treasuries and made a part of the user manual which has been printed by the Himachal Pradesh Government as a State Government publication.

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Gradation Lists of Assistant Surgeons in MP

For the first time, computerized Gradation Lists of Assistant Surgeons have been generated in the State of Madhya Pradesh. The final Gradation List for 5339 Assistant Surgeons as on April'98 has

been generated by the NIC MP State Unit within the stipulated time frame of the State Government. A Database of doctors created earlier for the Health Personnel Information System (HPIS) has been used for the generation of the aforementioned Gradation Lists.

Further enhancements in HPIS are presently under consideration to monitor the progress of Departmental Enquiries and Lokayukta & Economic offence Wing cases, besides the processing of applications for issuing NOC for Passports etc.

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Computerized Photo Ration Cards at Udaipur

As per the ruling of the Govt of Rajasthan, the ration cards are required to be renewed after every five years. However , this could not be done in Udaipur District for the last fifteen years due to lack of proper financial and human resources. This challenging task of preparing photo ration cards with low cost and within a limited time for the city of Udaipur was entrusted to the NIC unit by the District Collector, Udaipur. The Unit has very successfully completed the project within the stipulated time and with minimum human resources.

First of all, the design of the card was prepared. The pattern , size and colour was decided and the parameters as regards the items of information to be collected were fixed. The application for the renewal along with old ration cards were collected by the Supply Officer and provided to the NIC Unit. Accordingly, a tactful Data Entry Software was prepared. In addition to the parameters already fixed, other pieces of information i.e. number of income tax payees, total units , number of gas owners, number of DBC owners etc. were collected and fed. The data entry on GIST CARD in Hindi and data feeding of more than one lakh applications were completed in a period of three months.

A perfect coding system was used with a view to save time and labour. The codes were further converted into relations and a lot of additional information was derived.

The ration cards were, then printed on printed stationary. Each card had the photograph of the head of the family and other required family details. It is for a period of 5 years i.e. 1998 to 2002.

To help the Supply Officer, Udaipur in the work of distribution, a ward-wise index was prepared with the help of which the cards were easily distributed. Also ward-wise unit registers were generated for the office record of the District Supply Officer.

This was a colossal task which was accomplished by the NIC Unit within a very short period for which the DIO, NIC Udaipur was awarded by the District Authorities.

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Ready Reckoner for Stamp Duty Calculation

The NIC District Centre of Junagadh, Gujarat has developed a software package for calculation of Stamp Duty for the Collectorate. The function of the Stamp-Duty and Valuation office is to recover the remaining stamp duty from the Party who has purchased property in the form of land or building and has not paid the complete stamp duty. The software package acts as a ready reckoner for such cases. This system is based on the rates which are calculated according to the type of property and the present market rate. This helps to verify the stamp-duty already paid and recalculates the difference as per the prevailing market rate.

The system is divided into three types of areas viz. Rural, City Survey and Town Planning Scheme. The rates are calculated for each survey number using specific formulas. An approximate data of 3 lakh survey numbers covering 1221 villages and 23 cities of Junagadh and Porbandar Districts have already been entered into the system with the complete description of the areas. Multiple copies of village wise listing called "Jantri" have been printed in the local language Gujarati.This "Jantri" consists of around 2000 pages for each copy.

This ready reckoner system also has the capability of finding out missing and duplicate survey numbers of the village. The data in the "Jantri" can be easily updated with the required modification at any time. The software has helped to make the functioning of the District Stamp-Duty Office of Junagadh extremely efficient.

Projects

- **Electrical Inspections Records Computerized**
- **CRISP Adopts GUI Technology**
- **Punjab State Budget Computerization**

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Electrical Inspections Records Computerized

The office of Chief Electrical Inspector (CEI), Haryana is responsible for inspections of Electrical Installations in Haryana. Whenever any major electrical equipment i.e. Transformer, Generator or Motor is installed in any industrial premises of Haryana, it has to be certified for safety by the CEI office. After installation, the firm itself or the concerned State Electricity BoardÕs Sub Division sends a letter to the CEI office for inspection. Fee Structure has been devised for inspections different types of installations viz High Tension Installation [HTI], Medium Power Installation [MPI] and Low Tension [LT]. CEI office needs to keep the records of all inspections for which a control sheet has been designed by NIC-Haryana.

The Control Sheet consists of two parts viz. Static and Dynamic Information. Static Information includes Firm details and its technical installation data like types of installation, capacity & quantity. The inspection due month and its fee structure is fixed according to the type of installation. Dynamic Information includes HTI, MPI and LT fee deposited details like amount, challan number etc and inspection details like inspecting officer, inspection date etc. NIC-Haryana has developed this software in MS-ACCESS on WINDOWS.

On entry of static and earlier recorded dynamic information, notices are issued to the firms, 45 days prior to due date of inspection, by computer. It has eased the process of letter writing, monitoring of inspections and queries and statistics about the firms.

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CRISP Adopts GUI Technology

The Computerised Rural Information System Project (CRISP) was launched in 1986 by the Deptt of Rural Development, Government of India, to strengthen the monitoring of poverty alleviation schemes by the District Rural Development Agencies (DRDAs). CRISP software package, designed and developed by NIC was provided to DRDAs and is currently available in DOS (in majority of DRDAs) and Xenix (in NIC distt. centres) environments.

In order to further strengthen the computing and networking environment as desired by DRDAs, the Ministry of Rural Areas and Employment (MRA&E), Government of India has decided to sponsor the upgradation of the existing set up of DRDAs. Following are the major components of Phase- II of DRDA Computerisation :

• Adoption of Client/Server architecture

• Sanction of funds to DRDAs to upgrade the computing environment with one Server (Windows NT/ UDB), five clients (Windows95/Visual Basic, MS-office97), one Printer and setting up of LAN

• Design and Development of GUI based CRISP Application software package

• Provide dial-up connectivity using NICNET

All the DRDAs are in the process of procuring necessary hardware & software and preparing the respective sites, in consultation with NIC, to meet the above objectives.

The CRISP Group, NIC has prepared a Software Requirement Specifications (SRS) document conforming to IEEE standards to define the scope of the software.The SRS document was presented in a workshop held at MRA&E and attended by officials of various DRDAs. The modifications suggested in the workshop are being suitably incorporated. On the basis of the approved SRS, NIC would take up the Design and Development of the software.

The software is proposed to be designed in such a way that it covers the major poverty alleviation schemes - viz. IRDP, TRYSEM, DWCRA, JRY and EAS, sponsored by the Ministry based on the Common Minimum Monitoring Requirements of all the DRDAs / State RDs across the country, as well as the Ministry, as laid down in the SRS. The local requirements specific to each of the DRDAs/State RDs could be studied and incorporated by the respective NIC State Unit.

Thus, CRISP Version 4.0 would be implemented in a centralized-decentralized manner wherein a core module would be developed by NIC and supplied to all the DRDAs and State RDs fulfilling their common monitoring needs. The software would provide an easy-to-use GUI environment to the user for developing their own small modules specific to the local needs of each of the DRDAs/State RDs, which could be suitably plugged into the core module. It is one of the pioneering attempts to carry the GUI technology centred around Windows NT/UDB to the districts all over the Country.

Punjab State Budget Computerization

NIC Punjab State Unit has successfully computerized the State Budget for Punjab Government for the year 1998-99. The Budget presented in the State Legislature contains the following documents which are now being generated through the computer :

- Vote of Accounts
- Demands for Grants (Four parts)
- Detailed Estimates of Revenue (Receipt part I & II)
- Annual Financial Statement
- Budget at a Glance
- Supplementary Demands

Manual preparation of budget is very cumbersome and prone to errors. Last moment changes increase the workload. All the details from the lowest object level to the Demand number is compiled and use of computers makes this task much easier and all calculation errors are eliminated.

Combination of Database, spreadsheet and word-processing software was used for preparation of complete budget. GIST terminals provided the facility of bilingual reports i.e. English and Punjabi (Gurmukhi).

The proposal for up-gradation of Hardware under Client/Server computing and Local Area Networking (LAN) of Budget is underway. The LAN in Budget branch will be connected with the secretariat LAN so as to provide budget information to administrative secretaries. The software development in the client/server and LAN environment will be taken with the GUI tools.

NIC Gajapati : Exemplary Beginning

The tribal dominated Gajapati District in the state of Orissa came into being with effect from 2nd October' 92. The District has been named after Maharaja Sri Krushna Chandra Gajapati, the ex-ruler of Paralakhemundi, who is remembered for his contribution in the formation of a separate Orissa Province and inclusion of of Paralakhemundi estate in Orissa.

The District lies between 18.45 deg N to 19.40 deg N latitude and 83.0 deg E longitude. The major part of the District belongs to hilly terrain and undulated topography. Paralkhemundi, the District Headquarter, lies at a distance of 300 kms. from Bhubaneswar, the capital of Orissa. Gajapati has a population of 4,54,521 over an area of 4443.99 sq.km.

Preamble

The NIC District Unit, Gajapati started providing the Informatics support to the District Administration from February'97. The the key objective of the Unit was to generate basic computer awareness and promote Informatics culture in the District where the literacy rate is merely 25%. Apart from this, the other main aims of the Centre were to develop necessary MIS in various sectors and to strengthen the capacity of analysis and quality presentation of statistics utilized for decision making and implementation of National and State level projects.

The Staff at work in the NIC-Gajapati District Unit

Some Milestones

With the overwhelming support of the District Administration, NIC Gajapati Unit has developed and implemented as many as 15 software packages within the short span of one year of its establishment.

Some of the important ones amongst these are mentioned below :-

● A Village Level Database has been prepared in accordance with Census-1991, which is highly beneficial for the Departments involved in developmental activities.

● A Public Grievance Monitoring System has been developed for the District Collectorate which maintains a database and prepares different types of reports regarding redressal of grievance and the pending status.

● Another successful endeavor of NIC Gajapati Unit is the implementation of the P.L Account Monitoring System for the Development section of the Collectorate. The software prepares a central database for Profit-Loss (P.L) Account expenditure and balance returns of different blocks, both schemewise and monthwise.

● A 20-Point Programme Monitoring System has also been successfully developed and implemented which prepares reports about the achievement levels of the 20-Point Programme related schemes.

● MIS on Arms License has been developed and implemented for the Judicial section of the Collectorate. This system generates reports on the arms holders (Police Station wise), types of arms, issuing authority, purpose of issue, area of validation and date of renewal etc.

● Another milestone in the activities of the Unit is the implementation of the Mid-Day Meal Programme Monitoring System. This software is being effectively used by three Departments namely those of Education, Civil Supplies and Social Welfare.

Some other feathers in the cap of NIC-Gajapati Unit include the development of Rainfall Data Monitoring System, Monthly Pay-Roll processing for the Collectorate, Animal Information System for Animal Husbandry Department, MIS for Integrated Child Development Scheme and Small Saving Data Monitoring System etc.

Land Records Computerization

One of the major achievements of NIC-Gajapati District Unit is the computerization of Land Records in the various Tehsils of the District. Tehsils have been selected for the installation of computers . The software **"Bhulekh"** will be implemented in the Tehsils which will generate **"Khatiyans"** regarding land holding details in Oriya Language. This has already been done for the **R.Udayagiri Tehsil**, which is the first Tehsil in Orissa to go for computerization of Land Records.

Work is also underway for setting up a computer cell at the District Judge Court where the Judgement of the Supreme Court and High Courts will be made available to the authorities through NICNET.

Through sheer hard work and constant strive, NIC Gajapati District Unit has been able to spread the informatics culture among the Government authorities in such a short span of time. Computerization

has led to the availability of fast and accurate information which goes a long way in enabling better administration of Government Departments in the District.