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Editorial

Central Government Health Scheme provides comprehensive healthcare facilities to Central Government Employees and their families with about 32.5 lakhs beneficiaries, all over the country. Induction of ICT has immensely helped in the operations as well as management & monitoring of the scheme. Introduction of Plastic cards has further made life easy for the CGHS beneficiaries. Read our Lead story to know more about this.

In the Guest Column, we are honoured to have views of Smt. Rita Sinha, Secretary, Department of Land Resources, GoI, on Integrated Approach to Land & Property management. We also carry an informative & exclusive interview with Sh. Sanjay Kumar, Secretary IT, Chandigarh Administration wherein he discusses the important e-Government projects operational in Chandigarh as well as various initiatives taken by the Administration to promote the growth of IT industry in the region. ICT based initiatives implemented in the Office of Comptroller and Auditor General of India are also discussed in detail.

Uttar Pradesh, the first state to implement the e-District project, FISHNET: a "Kerala Model" for all Maritime States of India are the highlights of our projects & Services Section this time. Open Elecon, an open source based election information system, successfully deployed during election in Jharkhand is another important story.

In the 'From the States/UTs section', we have covered the ICT initiatives in the State of Gujarat and Meghalaya. ICT initiatives in South 24 Parganas District of West Bengal, Angul District of Orissa, and Kota District of Rajasthan have also been talked about in this issue.

All our regular sections viz., Technology Update, From the States, International e-Gov Update, Cyber Governance, In the News etc. are there to serve your need to know what's happening in the e-Gov dome around us.

Enjoy Reading...

Neeta Verma

We would like you to contribute to informatics. You can send your contributions directly to us at the following address.

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Computerisation of the Central Government Health Scheme Dispensaries

Central Government Health Scheme provides comprehensive health care to the families of Central Govt. Employees , Pensioners , MPs & Ex. MPs, Judges of Supreme Court of India and High Court of Delhi , etc., in 24 Cities including Delhi/NCR through 248 Allopathy Wellness Centres and polyclinics , AYUSH dispensaries , units and Laboratories. CGHS provides OPD consultation (including Specialist), provision of medicines, hospitalisation at Govt. and empanelled private hospitals and laboratories. There is also a provision for reimbursement. CGHS caters to about 32 Lakhs beneficiaries all over India.

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Central Government Health Scheme (CGHS) provides OPD facility through the Dispensaries (Wellness Centres) and first aid posts to the Central Government Employees and Pensioners, MPs, Ex-MPs, Judges of Supreme Court & High Courts, Journalists, etc. It also provides referral facility to its members in specialized hospitals & diagnostics centers authorised by CGHS for IPD treatments and diagnostics purposes respectively.

Excerpt of the letter from the Joint Secretary Sh. Vineet Chawdhry, IAS, Ministry of Health and Family Welfare

The Central Government Health Scheme caters to approximately 32 lakhs beneficiaries across 24 cities. The operations in CGHS Delhi have been totally computerized with the help of NIC. The use of IT has benefited operations of CGHS in terms of MIS, inventory management, monitoring of claims etc. A plethora of data is now available to the CGHS for planning its operations in a more scientific manner. We have been greatly enthused and encouraged by the success of Computerisation in CGHS Delhi. Computerisation of other cities is under way and over the next one year, CGHS will perhaps be the biggest health network in the country.

It is aimed at providing computerised environment for registration, prescription, issue of medicines, indents, stores, lab etc, there by improving the quality of health services and minimize the overall service delivery time to the CGHS beneficiaries in a typical Wellness Centre (OPD) environment. The provision of inter-Wellness Centre movement of patients has been made possible using this system, which facilitates a patient of X Wellness Centres to get serviced in Y Wellness Centres in case of emergency with issue of medicines and updating the history of medicines issued on the central server. The transparent system enables the CGHS to take timely decisions on inventory management, patient management etc using various MIS and statistical reports.

Other modules are being added from time to time and it is targeted to have end-to-end computerised solution for all CGHS functions in near future to come.

The system has been adopted well by the doctors and the staff of the Wellness Centres. The hand holding is the crux for the successful computerisation. The crucial support and training while the live operation is on, becomes very important. The very support makes the system work with doctors and the staff adept to the new environment fast.

The users once they realize the benefits generated out of computerisation, and seeing the live operations of the system, build confidence in them and that makes thing work. Two well trained supporting staff (DEO) has been

provided in the first year in each Wellness Centres to hand hold the system and provide critical support in case of problems. The DEO strength has been reduced to one per Wellness Centres after one year of operation.

The software application has been designed in such a way to make it scalable. Supported by the NIC Data Centre, security and back-up are part of it.

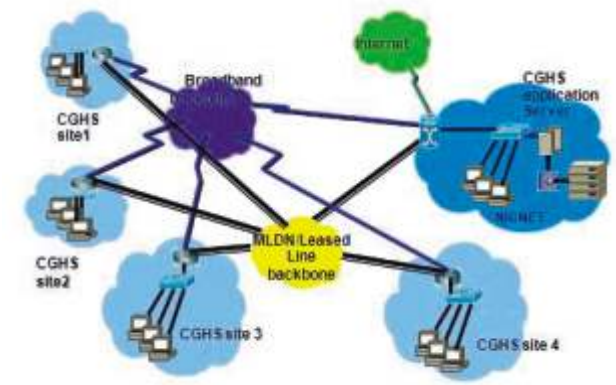

Diagram showing Leased line and broadband network used in CGHS

Project Highlights: *The CGHS Computerisation has following features*

- Average daily patient attendance is over 17500 which get online treatment
- Over 68.17 lakh patients have been registered in online CGHS Wellness Centres since January 2008 till date (21/05/09).
- About 400 doctors write prescriptions online per day.
- Over 800 users including doctors access the online system per day.
- Web Based application *(http://cghs.nic.in)*
- Open Source environment with Redhat Linux Clients
- Development environment used : PostgreSql / Java technologies
- Only Allopathic system is covered currently
- Pharmacist distributes medicines to patients online
- Store keeper issues the medicines to the pharmacy counter based on online stock availability
- Stocks of the Medicines in the Wellness Centres gets updated at real time basis when Medical Stores depot (MSD) supplies the medicines online
- The Authorised Local Chemist of the Wellness Centres checks the indent status online and starts preparing the patient wise medicines and supplies the medicines next day.
- The lead time of indented medicines from Local Chemist came down from 4 working days to 1 day, with no manual work at the Wellness Centres for preparation of indents.
- MSD of the CGHS checks status online of the stocks of the Medicines in the Wellness Centres and takes necessary actions to supply the same online
- Inter-Wellness Centre facility introduced to facilitate patients to get medical help in any of the CGHS Wellness Centres with records maintained on the central server.
- Introduction of ICD-10 codes for the diseases in the doctors' prescription module
- Facilities of permission to pensioners for treatment/diagnostic tests in the authorised hospitals/labs of CGHS
- Online Authority letter to the patients for urgent supply of emergency medicines from the MSD / Local Chemist
- Beneficiary plastic card is under printing with a barcode facility. About 5 lakh plastic cards have been distributed so far.
- Each Wellness Centre has
  - i. An MLDN connectivity with 2 MBPS Leased line as primary and broadband as backup has been implemented in all Wellness Centres in Delhi.
  - ii. LAN Nodes with Manageable / Un-Managed Switch
  - iii. Desktop Clients and printers for every Doctor & Paramedic staff in the Wellness Centres
  - iv. UPS with 2 hours backup in the Wellness Centres

Leased Line as primary Link Broadband as Backup

Benefits observed/expected from the computerisation

- Full transparency in the entire process in the Wellness Centres
- Integrating modules such as Local Chemist, Medical Stores Depot making it more transparent
- Reduced time for preparation of Indents for the Local Chemist, as it's instantly available.
- MSD sees the stocks of the Wellness Centres online and supplies the medicines to the Wellness Centres as soon as the Wellness Centres indents online. Wellness Centres receives the MSD indents online and the stock gets updated online.
- Patients' history is maintained. Subsequent visits to the Wellness Centres by the patient provide help to the attending doctor diagnose the problem more effectively.
- Printing of indent report at the Wellness Centres is not required. Local Chemist brings the print-out along with the indented medicines
- The indents are available next day instead of 4 working days when manual operation was in place.
- The overall servicing time for a patient in the Wellness Centres has been significantly reduced.
- Doctors and other staffs in the Wellness Centres have learnt the online system to prescribe medicines online
- The ICD-10 codes will help in diseases profiling of the patients

The Pilot Project

The Pilot Project was successfully completed in the CGHS Wellness Centre, Laxminagar, New Delhi and the Wellness Centre is fully computerised since January 2006. The average no. of patients per day is 675 in the Wellness Centre. Subsequently the VIP Wellness Centres were taken for computerisation viz. North Avenue & South Avenue, which are also working successfully since October 2006.

Excerpt from the Joint Director Dr. S.V Ramakrishna , CGHS

Computerisation of CGHS Wellness Centres has already helped to make the operations user friendly and transparent. Indented medicines are available in 24 hrs; Data in terms of Quantity and number of medicines prescribed is accurate and easily accessible making demands and inventory management more easy; provided option to procure in bulk the more commonly indented medicines at a competitive discount; opportunity for access to Wellness Centres any where in India though individual Plastic Cards.; provided a launch pad for better planning and implementation in future including a possible e-procurement. In addition beneficiaries have access to information including tracking of medical claims.

Thus Computerisation helped / CGHS to make system more user friendly and transparent and given a new image to CGHS.

Phase-I covering all the Wellness Centres in Delhi/NCR

The first phase of the project was covering all the CGHS Wellness Centres (allopathic) in the Delhi/NCR region. The highlights of the phase-I are as below;

- 84 Wellness Centres are fully online with all modules functioning as on today.
- Three Wellness Centres (one each) in Bangaluru, Allahabad & Pune have also been online since July 2008.
- Doctors and para-medical staff are taking the computerisation in the right spirit
- Zonal Offices, CGHS-HQ, MSD & 3 First Aid Posts have also been covered for computerisation.

Plastic cards to individual beneficiaries in Delhi/NCR

The CGHS family cards are being replaced with plastic cards to each beneficiary. The bar-coded plastic cards will be used by beneficiaries to get the CGHS benefits. This will facilitate the beneficiary to use the same plastic card irrespective of his/her transfer from one Wellness Centre to the other Wellness Centre in the same city or other cities (when the plastic cards will be ready outside Delhi/NCR). So far over 5 lakh plastic cards have been printed and distributed to the CGHS Wellness Centres for further distribution to the CGHS card holders. The individual

plastic cards will make the process more effective with the introduction of Barcode Scanners which will be used in the Wellness Centres soon for dispensing the medicines.

Doctor Module for Specialists to see the patients of all the nearby Wellness Centres

The specialist module helps in prescribing the treatment to beneficiaries of nearby Wellness Centres. The same has been implemented in the Poly Clinic of Kasturba Nagar 1 Wellness Centres in Delhi. The medicines are dispensed from the respective Wellness Centres of the beneficiary based on the specialist's prescription and indented medicines are visible to the Authorised Local Chemist (ALC) of the concerned Wellness Centres. The visit of the beneficiary is limited only to collect the medicines from his/.her respective Wellness Centres and it also helps in reducing the load of patients in the Wellness Centres.

On the similar lines CGHS wings of Ram Manohar Lohia Hospital and Safdarjang Hospital in Delhi are being planned for computerisation, which will be implemented in the coming months.

Phase-II covering 102 Wellness Centres in 6 locations outside Delhi/NCR is proposed to be covered.

These locations are Mumbai, Pune, Nagpur, Chennai, Kolkata and Hyderabad.

The site preparation, LAN, supply & installation of Hardware & UPS is completed in all Wellness Centres. The connectivity in all these Wellness Centres is under implementation. 6 Wellness Centres in Nagpur and 2 Wellness Centres in Kolkata are made fully online in May 2009. Online registration is also happening in 20 Wellness Centres of Kolkata & Nagpur. It is expected to computerise all the remaining Wellness Centres in coming months.

Phase-III covering 87 Wellness Centres in 17 locations outside Delhi/NCR is proposed to be covered

The remaining 87 Wellness Centres and offices in other locations (17 nos) are being covered in the phase III. The LAN, Hardware, UPS and MLDN connectivity will be completed in coming months.

Data entry of all the index cards of the beneficiaries across these 17 cities is completed.

Additional features under implementation in coming months

- **Module for the Zonal Offices to process the claims of beneficiaries.**

  Individual Claims submitted by the pensioners towards treatment in un-recognised hospitals are submitted in the Wellness Centres. The Wellness Centres after acceptance of the claim sends it for approval and processing by the Zonal Office. The Zonal office scrutinizes the claims bill and approves for payment or rejects the same. The payment is made by the Pay and Accounts office of CGHS though ECS. Similarly bills of Local Chemists are also processed by the Zonal Office for payment. Patients will be able to track their claim status online using Claim Reference Number.

- **Module for the Central Government Departments to manage CGHS for their employees**

  This module includes online permission to the employee for diagnostics tests / treatment in the authorised diagnostics centers / private hospitals of CGHS. The Claims submitted by the employee, for settlement by the department will also be online.

- **Module for the authorised diagnostics centers / private hospitals of CGHS**

  This module includes the online permission to the beneficiary by the Wellness Centres / department for treatment in the authorised diagnostics centers / private hospitals for various diagnostics tests / procedures as advised by the specialist doctors of the Government Referral Hospital. The authorised diagnostics centers / private hospitals will provide the necessary treatment as per the permission granted and will submit the Claims for settlement.

- Computerise CGHS Wellness Centres in other systems of medicines such as Ayurveda, Homeopathy & Unani.

- Family Welfare functions in the Wellness Centres

Since the implementation of the computerisation of CGHS, there is a significant increment in service delivery and transparency and has drawn the attention of everybody.

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NLRMP : An Integrated Approach to Land and Property Management

In an exclusive Interview to Informatics, Smt. Rita Sinha, IAS, Secretary, Department of Land Resources, Ministry of Rural Development, Government of India, expressed her views on how National Land Records Modernization Programme (NLRMP) will be instrumental in implementing the conclusive land-titling system in the country.

i Kindly express your views about the importance of land records in India. What are the objectives of revised National Land Records Modernization Programme (NLRMP)?

Smt. Rita Sinha, IAS
Secretary, Dept. of Land Resources
Ministry of Rural Development, GoI

Land plays a crucial role in our social and economic life, particularly in rural areas. The social & agrarian fabric could be disturbed if land management issues are not addressed effectively. Accurate land records enable the Government to plan development in a scientific way. The citizens are also benefitted as land transactions are made simpler, more transparent and up-to-date when the land management system is modernized and computerized. Identification of beneficiaries for various schemes is easily identifiable in such a way thereby reducing delays and corruption. Land records and food security are intimately linked to each other. As the land use pattern can be accurately mapped on the basis of accurate land records.

The NLRMP seeks to make all land records computerized, easily available, accurate and "real-time" i.e. accurate at any given moment. It seeks to introduce modern techniques of surveying property such as the use of aerial photogrammetry along with TS and GPS and, wherever possible, use of satellite imagery for this purpose. It also seeks to integrate the textual and spatial land records data as well as the revenue and registration systems with the ultimate objective of introducing conclusive titling in the country instead of deeds system which is followed at present.

NLRMP portal will provide project details and technical inputs

i What according to you are the best features of NLRMP? What is the kind of feed back you have received for it?

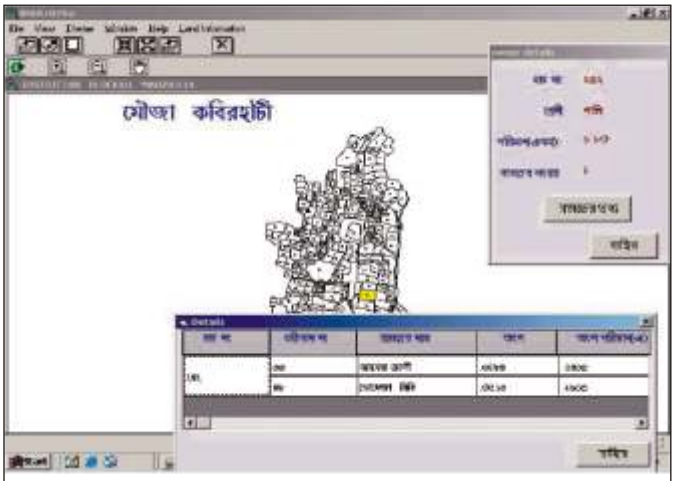
The best features of NLRMP are :-

- It is a holistic and integrated approach to land and property management rather than an agglomeration of schemes.
- It makes property management a citizen service rather than merely a tool for governance
- It provides a base for accurate data collection and for core GIS related activities.
- It has the features of both transparency and confidentiality viz. transparency in the functioning of the property maintenance machinery and confidentiality for the citizen regarding property data
- It lays the basis for better governance and faster property transactions.
- It is bound to reduce unnecessary litigation due to accurate land record management.

The survey staff being trained under NLRMP on new survey techniques using "Global Positioning System (GPS) and Total Station (TS)"

How Significant is modernization of land records in bridging the digital divide in the country?

The erstwhile components of NLRMP had set up core computer infrastructure at grass root level .i.e. tehsils, circles etc. The project has brought digital land records and registration data availability on the web. Since, this information is often demanded by citizen for various purposes in day-to-day life, this also paved and contributed to the growth of internet kiosks/access-points in rural areas thereby reducing digital divide.



Integration of Record of Rights (RoR) with plot map

"Land Disputes are too common". How the revised scheme of modernization of land records would address the problem?

The interlinking between the revenue and registration departments will ensure that

- all property records are kept up-to-date
- only property owners as recorded in the Record of rights (RoR) or as authorized by them can transact property
- Since the changes in the RoR are instantaneous upon issue of non-encumbrance certificate by the registration department, fraudulent sale of a property will no longer be possible.

All the above factors will greatly reduce land disputes.

Information Technology (IT) is the best tool to offer fast and transparent services to the citizen. What will be the role of IT in the revised scheme?

Information Technology has brought transparency in land record and registration management by facilitating placing of property records on the web, digitization of maps, integration of textual and spatial data, scanning of old records, use of TS and GPS for survey, linking of revenue and registration offices, past transactions and titles of properties as well as their valuation details. This has led to an efficient information management to a large extent enabling search for past encumbrances, mutation details and RoRs.

What was NIC's contribution during implementation of previous scheme on Computerization of Land Records (CLR)? What will be NIC's roles in revised project?

NIC has been our key partner providing technical inputs in policy/guidelines formulation for programme management at national level, ICT & training solutions at project level in all states and sustained operational support at district & tehsil level. The programme of such vast nature involving social, procedural and technical complexities requires an anchor organization to provide multifaceted support to move-on and NIC has played this role in an excellent manner. I envisage that the partnership involving NIC and DoLR would continue to strengthen NLRM project in times to come.

Interviewed by: Vinay Thakur

e-District : Uttar Pradesh takes the Lead

Uttar Pradesh became the first state in the country to roll out e-District project in 6 pilot districts of the state. e-District is a State Mission Mode Project under the National e-Governance Plan (NeGP) of Ministry of Communications & IT. The project seeks to automate the complete workflow and internal processes of district administration with the possibility of seamless integration of various departments to e-enable the delivery of high volume services to the citizens through Common Service Centres & kiosks.

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The 'e-District' application software has been developed by National Informatics Centre Uttar Pradesh. It is web based solution which ensures 100% electronic workflow of the service - right from receipt of applications to the final delivery of service. The status of application can be tracked by the citizen and the government officials through the portal and the escalation matrix ensures the adherence to the service levels defined for each service. Separate modules have been designed and developed to capture the base data from Parivar Register, Pension & Certificate Registers, Revenue Court Cases etc. which is used for verification.

Advantages

- Hassle free process for the citizen he/she can avail service from the nearest CSC / block even for the services which are available from the district head quarters, saving time and cost.
- Status of the application available on the web - reduces need of the citizen to visit government office to know the status of his/her application.
- Transparency in dealing - the applicant goes to the nearest e-District centre and does not have to deal with the officials who actually process it.
- Government officials can monitor status of applications submitted & performance of subordinates.
- Reduce delays and ensure promptness in delivery of services

A total of 32 services pertaining to Certificates, Pension, Public Distribution System, Revenue Court, Employment, Grievances etc., from 10 line departments were selected for complete automation in Uttar Pradesh. ***The project was launched in Sitapur on 15th Dec 2008 by Ex-Chairman, Board of Revenue Sh. Vinod Malhotra, IAS, who inspired & motivated the project team to complete the project much before the scheduled time of 18 months.***

Sh. Vinod Malhotra, IAS, with Dr. B. K. Gairola, DG, NIC during inauguration at Ghaziabad

State-of-art e-District Centers have been made in the selected pilot districts (Sitapur, Raebarelli, Ghaziabad, Gautam Budh Nagar, Sultanpur & Gorakhpur) to provide a world class infrastructure facility to the citizens and better working environment to the officials providing these services.

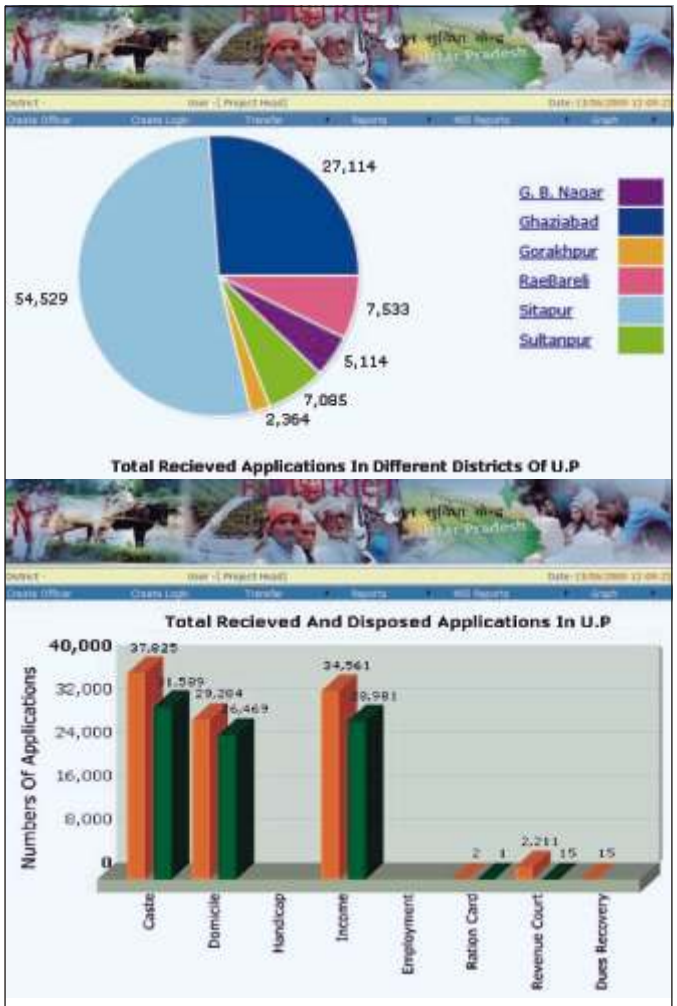
Technologies such as digital signatures have been used for the approval of the application & issuance of certificates. GPR has been carried at all levels to move from archaic rules to the modern technology based

decision making, high focus has been laid on training and change management right at the district, tehsil & block level of administration to enable the projects objective of providing services to the citizens in friendly, transparent and easier manner.

A service oriented architecture based approach has been adopted for developing the framework for e-District to introduce flexibility in the service delivery mechanism. This architecture decouples the core administration, decision making and each aspect of the service delivery mechanism into distinct components. The portal *http://edistrict.up.nic.in* provides instructions on how to avail a particular service, supporting documentation required etc. which helps the citizen to avail the service with out need of any intermediaries. The status checking component reduces the scope of discretion on the part of government officials and makes status of the application visible to the applicant at any point of time. The e-District centres attempt to provide a flexible e-Governance setup, where citizens can avail a wide array of services at a single location without concern about the department which provides a particular service. This is a paradigm shift from department centric to citizen centric approach.

http://edistrict.up.nic.in

The reporting component provides both tabular and graphical statistics to the administrators on number of applications received and processed in a given duration, applications processed within time and which ones took longer than expected time, district wise summary etc. The application requires fixing of responsibility of each step to a particular login, and the officials are able to trace where an application is lying at a point of time and how long it has taken to finish a particular process. The automated escalation matrix also helps the administrators in monitoring productivity and efficiency of employees and the whole department.



Graphical representations for received applications in different districts of UP

Key Process Improvements

- Requisite Government Orders issued by participating departments for electronic delivery of services.
- Issuance of digitally signed certificates/ services.
- Allowing verification/ decisions to be made based on the e-District database or databases of other departments.
- Online submission of application from CSC/ Block/ Tehsil or District which ever is convenient

Contd. on page 18

Open Elecon: Managing Elections Meticulously in Jharkhand

The general elections in India, the world's largest democracy, were recently held to elect its 15th Lok Sabha. Elections are conducted according to the constitutional provisions, supplemented by laws made by Parliament. The major laws are Representation of the People Act, 1950, which mainly deals with the preparation and revision of electoral rolls, the Representation of the People Act, 1951, which deals, in detail, with all aspects of conduct of elections and post election disputes. Elections in India are an exercise involving political mobilisation, people participation and organisational complexity on mammoth scale and are said to be the largest event in the world.

To manage the event involving enormous complexity, a computer based system - "Open Elecon" was developed by NIC, Jharkhand using open source platform for conducting the parliamentary / assembly elections conforming to the guidelines of the Election Commission of India.

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Software for managing elections (like Elecon etc.) has been used by various NIC centres all over the country earlier. But "Open Elecon", true to its name, is reengineered software on open source technology, developed and implemented in a time bound manner during the recently concluded 2009 Lok Sabha elections.

Expert of the letter from Joint Chief Electoral Officer-cum-Joint Secretary Sh. Ashok Kumar Sinha, Dhurwa, Ranchi, Govt. of Jharkhand Cabinet (Election) Department.

This is to Certify that the "OPEN ELECON Software version 4.0" developed by NIC Jharkhand State Centre, Ranchi for supporting the Election process, confirms to the prescribed Guidelines of the ECI.

The software is approved for using in the Lok Sabha Election-2009

The web based system uses Apache Tomcat as Application Server, J2EE as development platform with MySql database. The software was installed at the central server, which was accessible from all the districts of the state. Districts were also given the option to implement the system on their local server at district NIC centres. The system required one time initialization with district name, names of parliamentary constituency with assembly segments, block names, etc.

Flow of the System - The overall flow of the system is as follows.

Users & Role

The system operates with four types of users having various roles for the smooth operation.

Administrator: is the super user having all the privileges to operate the software. User having Admin Role can enter, edit and delete any data or record as well as perform polling personnel randomization, EVM randomization, Polling Officer Replacement and Reports etc. Administrator has the privilege of creating all the master files.

Observer: Users having Observer Role can perform 2nd and 3rd polling personnel randomization, magistrate's randomization and party formation.

Election Officer: Election Officer Role is allowed to only view the results after counting. This role is used for media display.

Operator: Users having Operator Role are allowed to do all the data entry tasks, except some of the data that must be entered by the User having Admin Role.

The users of the system need to login using their own username and password. The password is

authenticated using Salted Hash MD5, in order to make it hack proof.

On being logged in, the user finds an informative and attractive Dashboard, which gives graphical and tabular information to monitor the whole system as follows-

- **Officers -** gives the detailed information of officers posting block wise, officers assembly constituency wise and their duty wise in tabular as well as in a bar-chart.
- **Booths -** gives a tabular as well as bar-chart information of the nos. of voters assembly wise and gender wise, and the tabular and pie-chart information about the nos. of booths based on their sensitivity assembly wise.
- **EVMs -** gives separate information regarding the nos. of Control Units and Ballot Units allocated to each assembly constituency and how many are reserved. This is also shown graphically in bar-chart.
- **Vehicles -** gives information about the nos. of vehicles on election duty with their type in tabular form as well as graphically in pie-chart.

Dash Board

Modules of the system

Data Entry involved master entry of Departments, Offices, Officers, Booths, Electronic Voting Machines (EVM), Vehicle details etc.

Data Processing involves application of business rules as per the ECI guidelines and comprises the core of the Open Elecon system. It can be categorized as follows -

- **Deployment of Polling Personnel -** allocation of assembly segment to officers (1st polling randomization) based upon the predefined criteria. Party formation (2nd polling randomization) involving officers selected through the above process.
- **Booth Tagging -** allocation of booth to parties formed above (3rd polling randomization).
- **Deployment of Micro Observers / Magistrates to Booths -** the system facilitates deployment of micro observers and magistrates to various polling booths.
- **EVM Randomization & Booth Tagging -** assembly wise allocation of EVM's (1st EVM randomization) and thereafter tagging of EVM's to booth (2nd EVM randomization).
- **Processing Parameters:** Before processing for the deployment of personnel or EVMs , the system required the following parameters *Place and date of training, Name & designation of returning officer, Material Collection centre with date & time, Material returning centre , No. of booths for lady officers, Percentage of reserve personnel, Percentage of reserve EVMs , No. of micro observers & magistrates, Additional Polling personnel for the booths where number of voters are exceeding a predefined figure.*

Reports & Letters - The system has provisions for generating training duty and appointment letters / ***Tamila*** for Officers and Magistrates, identity cards for Polling Officers and Magistrates, list of booth-party-tagged, list of booth-EVM-tagged, list of Magistrate-booth-tagged, Reserve party list etc.

Counting - The last phase of the polling process was supported by the system which provided round wise compilation of votes polled for all the candidates at an EVM / booth for an assembly segment. The compiled result for all the assembly segment of parliamentary constituency was displayed instantly to the media from the server.

Salient features of the System : Generation of PIN for officers whose details are entered into the system, Reports generations like Training Duty letters, Individual duty letters, Appointment letters, Replacement list, Booth & Party Tagged List, Party Reserved List, Booth BU & CU tagged / Reserved list, Office wise Poll duty list, Presiding officers list etc, Master information entry like Blocks, Departments, Pay scale, Officers allowance, Duties etc apart from User management, Locking of executed randomization process at every stage, Selection of micro observers / magistrates and their booth tagging through randomization etc

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Edited by: Prashant Belwarier

FISHNET: A "Kerala Model" for all Maritime States of India

Kerala is bordered by a range of mountains viz. the Western Ghats on the eastern side and the Arabian Sea on the western side. The coastal line of the Arabian Sea sprawling on the western part of the state is 590 kms in length. The population of fisher folk in Kerala is estimated at about 10.85 lakhs.

In order to facilitate optimum utilization of the available fisheries resources in the country and also to meet the objectives of Inland & Marine fisheries and aquaculture development programmes, Fisheries Information System Network (FISHNET) was developed.

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NIC Kerala has developed FISHNET - an e-Governance portal-cum-web enabled work flow based application system for the department of fisheries, Government of Kerala using LAPP technology. The project components include knowledge based Portal with online site administration facility and ReALCraft Application (Registration And Licensing of Fishing Craft). This system is in place in all 9 marine districts of the state and around 20 thousand vessels are already got registered. - Recommendation of the ISDA-95 Conference gets realisation in the State of Kerala in 2009 and becomes a "Kerala Model" for replication in all the Maritime states of India"

The Ministry of Agriculture, GOI, has taken initiative for replicating the same as "Kerala Model" in all maritime states and UTs. / Islands in close association with National Agricultural Informatics Division headed by Sh. M. Moni, DDG. NIC Kerala State Centre is considered as the "Nodal Centre for National Rollout" of this "ReALCraft" Application Software.

Excerpt of the message from Director of Fisheries Sh. P.I. Sheik Pareeth, IAS, on FISHNET Project

In order to regulate the fishing operations in the 590 km of Kerala Coast, Marine Regulation Act Kerala was enacted and is being implemented in the state. All fishing vessels operating along the Kerala coast have to be registered either with the Department of Fisheries or Marine Products Export Development Authority (MPEDA) and subsequent hence from the state. Those fishing vessels coming from other neighboring states for fishing operations are given temporary permit for operations in the Kerala coast.

The registration / Licensing system is being utilized effectively in the state which is regarded as a pioneer and novel venture when compared to other maritime states of India and appreciated the services provided by NIC Kerala.

Advantages of the System

The major advantage of the system is its role in ensuring coastal security. The Application helps to check and track suspicious vessels in Indian waters, by providing instant information of specified vessel including its fishing permit details to marine enforcement team. It also reduces malpractices in the fishing sector.

Department Services through ReaLCraft application

- **Vessel Registration:** Vessel Registration & issuing Fishing Licence, Ownership Change, Duplicate Registration Certificate, Licence Renewal, Duplicate Licence Certificate, Permit for structural modification, Permit for changing Engine, Gear, Fuel Tank, Life Saving Equipments, Vessel insurance Details, Crew Information maintenance
- Temporary Fishing permit for other state vessels
- Fishing Licence for vessels registered with other valid Registration Agencies

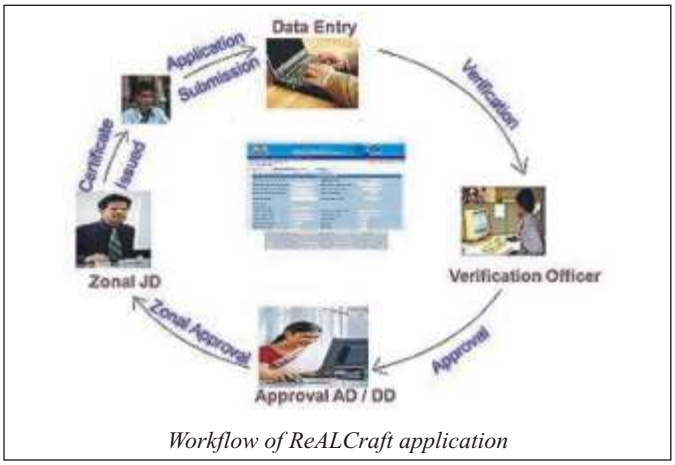
- Vessel Impound Details and flash news to officers on impounding details

Hon'ble Minister for Fisheries & Registration, Sh. S. Sharma distributing Registration Certificate

Salient features of the system

- User friendly interface with Bilingual support
- Online technical support and Excellent Security system
- Easy data verification
- Computerised Registration/License/Vessel identification number
- Automated fee calculation based on Type/Length/HP of the vessel
- Role Based Dynamic Menu mapping
- Strong vessel related database
- District/Base of operation/Vessel owner level reports
- Easy Search facility
- Online facility for the site administrator

Modus Operandi



Workflow of ReALCraft application

- **Application Submission:** Applications for various services from the department are getting submitted at the fisheries station by vessel owners along with required fee. The details of the application will be entered into the system and will be stored in an electronic file. Physical application will be scanned and attached to electronic file for easy reference at higher level and then it will be forwarded to verification officer. Application reference number will be issued to the vessel owner for further enquiry.
- **Physical Verification:** Physical verification will be conducted by the verification officer and then the application will be forwarded to higher level for necessary approval with the remarks. Verification Officer can make changes in the data if required.
- **District and Zonal level Approval:** System will forward the applications for district level and also for zonal level approval as required. Provision is available for sending the application back to the lower level office electronically if required. After the approval of the application, certificates will be available for print.
- **Certificate Printing and Issue:** Registration Certificate, Fishing Licence or Permit will be available for printing and issue after the approval of the approving authority depending upon the service.

Major Benefits of the system

- Instant information on vessel structure, fuel capacity, life saving equipments and other crucial information to marine force using centralized database
- Online checking facility for certificate validation for enforcement agencies
- Smooth customer oriented work flow
- No physical movement of the application required
- Unique Barcode for individual certificates
- Alert messages to officers on impounded vessels and other important news
- Reducing malpractices e.g. use of duplicate engine registrations
- Bilingual supported certificates

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Edited by: Asha Varma

CAG : An e-Governance Success Story

The Comptroller and Auditor General of India (C&AG) Office is a Supreme Audit Institution of India and it discharge its duties and responsibilities as " public money to be properly managed and spent to good effect" through its more than 180 field offices -Indian Audit and Accounts Department (IA&AD) located all over the India and abroad. Since the information handled by each office of IA&AD is substantial in volume and any type of major analysis is only feasible with the help of computers so Information & Communication Technology (ICT) has become a strategic resource to C&AG office.

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NIC Centre, established in year 1988 at C&AG office is providing technical support to the offices of IA&AD in development of software for house-keeping functions besides the support of Networking to the buildings of C&AG and AGCR. NIC has implemented various Web based applications for the offices of IA&AD to enable them to access & upload data to Central computer and many projects developed for the functions of C&AG office. This has enhanced transparency & efficiency in office functioning of IA&AD.

Excerpt of feedback concluded by Sh. A N Chatterji, Dy. Comptroller and Auditor General

With the technical support of NIC in implementation of various e-Governance activities, C&AG office has become as a less paper office and more productive in carrying out effective Audit Planning and Management with greater transparency and efficiency.

I express my sincere appreciation for the remarkable contribution made by NIC team under the leadership of Sh. S.C.D. Gupta, Senior Technical Director, in successful implementation of e-Governance initiatives and Network services in C&AG office.

Major ICT based activities implemented

Empanelment and Allotment of CA Firms for PSU Audit (EACAPSU): The web based System facilitates Chartered Accountant (CA) firms to submit their applications to be empanelled for PSUs Audit. The data captured from CA firms is processed through software to prepare ranking of the firms on various factors like date of constitution, number of CA partners, ISA/CISA qualified, CA employees, etc. The system has reduced the data entry work and thus saved a lot of time in empanelment and selection process of CA firms for allotment of audit of PSU ,correlating the rank of the CA firm and structure of the PSU. The list of selected CA firms empanelled & allotted audit of PSUs is published over the internet.

Web based interface for online submission of application

Web based MIS for staff strength and Men in position (MISSM): The system is implemented with a database server at C&AG office to monitor men in position against sanctioned strength in each field office. The system generates various MIS reports for the management.

Public Grievances Monitoring System (PGMS): The system is implemented to monitor a large number of complaints received from State Governments employees with regard to pension, DCRG, GPF etc. in CAG office. The complaints are reviewed and appropriate advices are issued to the concerned AG for speedy or interim settlement. The system generates various MIS reports related to pending cases.

Section Officer Grade Examination Results Processing System(SOGE): The system is implemented to process the results of various departmental examinations conducted by C&AG office for the employees of IA&AD. Due its confidentiality and secrecy, the system generates random fictitious number for every roll number and marks are entered against the fictitious numbers. The result is processed based on certain conditions and published over Internet.

Audit Planning System(APS): The system is implemented to help the field offices in preparing the plan for auditing a large number of manufacturing companies according to computed weightage points based on various factors such as revenue generated by the company, number of products made, company prone to evasion of excise duty, taxes, etc.

Budget/Expenditure Monitoring System (BEMS): The web based system helps the office to monitor expenditure actually incurred in each field office against budget allocated by C&AG office and facilitates in re-appropriation of the budget among its field offices. It enables the field offices to update the data of the expenditure details from their offices through internet. The System generates various MIS reports for the management.

MIS on RTI Cases (RTMIS): The software is implemented to monitor the RTI cases and to keep track of the cases so as to take requisite action in time.

MIS on Returns (MISRT): A web based system is developed for capturing the data of a large number of Returns being sent by the field offices at a regular interval of time to C&AG office and generates various MIS reports to monitor the performance of various functions in the field offices .

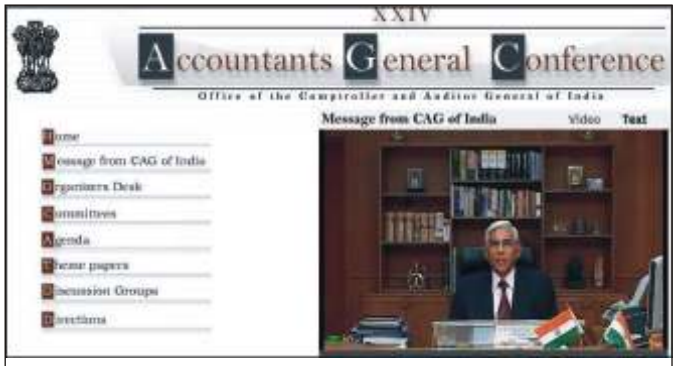
Inventory System (INVNTMIS): The system is developed for data base of computers items , stationary, etc. The software helps the General Section to keep track of the items issued and transferred to various sections.

Trend Analysis of the deficiencies in Inspections (TADI): A system is implemented to facilitate the user to generate various MIS reports to analyse the deficiencies noticed during the inspections of field offices by C&AG office.

Gradation (Seniority) list System (GIS): The system is implemented to prepare the gradation list of IA&AS officers and to generate various reports for the management.

MIS on Legal Cases (LCMIS): The software is implemented to monitor the legal cases initiated by the employees against IA&AD department and vice-versa. It facilitates to keep track of the cases so as to act upon them in stipulated time.

Website of AG's Conference: The website of Accountants General (AG) Conference held in October 2008 was hosted to act as a medium of communication and to facilitate the AsG about the activities of the conference like Agenda, Events, Venues, etc.



Sh. Vinod Rai, Comptroller and Auditor General of India addressing online on the eve of AG's conference

Diary System (DSRD): The software is implemented to direct all incoming mails to various divisions and to dispatch the letters from the sections. The system generates various Diary/Despatch reports. It has eliminated the maintenance of manual registers.

Library Information system (LIMS): A On-line Library System is implemented for searching of books/reports on title, subject, author, publisher, etc. The system also facilitates to generate reminder slip, issue slip, and

reservation slip etc in addition to various periodical reports.

Payroll and Pay-bills(PAYBILL): The S/W is implemented in IA&AD offices to generate Pay-slips, Acquaintance Rolls, GPF statement, I-Tax statement, Form-16, salary file to Bank, etc.

Telephone Directory (TELMIS): On-line system is implemented to retrieve telephone number and e-mail address of IA&AS Officers, by querying on alphabet, name, designation, station etc.

Circulars on Web (CIRWEB): A web based system is implemented to view circulars and office orders issued by C&AG Office over internet at anytime from anywhere.

IT Systems Audit: IT systems in Govt. offices are audited using various audit software like IDEA, etc, for the correctness of the logic and in proper implementation of business rules as built in the software.

Work Flow Automation: The Work Flow Management software is implemented to automate various office routine tasks by reducing the requirement of movement of documents across the hierarchy for approvals, by facilitating the officers to access and upload the documents, etc to the Central Computer.

IntraCAG Portal: It provides a single interface to access by the officials of C&AG for various housekeeping applications and the information about its day to day activities.

Website of C&AG Office: A Web site www.cag.gov.in is hosted to provide the information to the people about C&AG office, News & Publications, links to the websites of its field offices, Audit Guidelines, Tender Notice, RTI Act, Audit reports presented to Parliament and State legislature, etc.

Networking: Network Connectivity to both the buildings of C&AG and AGCR building through 10 MBps OFC in each building and 2x2 MBps leased lines in CAG office. The Local Area Network (LAN) between both the buildings of C&AG office has been established to automate the office routine task.

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- Verification of issued certificates / services using e-District Portal.
- Pre-printed stationery used for issuance of certificates.
- Photographs of certificate holders printed on the certificates wherever necessary.

The success of the project can be gauged from the influx of applications, which has already crossed one lakh mark in the six districts, more than ninety thousand certificates have already been issued and efforts are underway to increase the services and extend the reach of e-District to remote locations. The application has truly simplified a lot of the processes and also reduced a lot of paperwork. A great deal of action can be taken by click of the mouse. Delay at every step can also be monitored by the superior ensuring prompt delivery of services. However, the success of the project is a result of sincere and dedicated efforts of the project team comprising of the State IT Department, Centre of e-Governance, U.P., NIC U.P. State Unit & District centres, District Administration of the six districts and the three consultants PWC, Wipro & 3i-Infotech who worked under the able guidance of Chairman, Board of Revenue.

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Gujarat : Showcasing Irresistible IT Infrastructure

Gujarat, the westernmost state of country is one of the oldest business points in the world map. It is an abode to some of the largest businesses in India. A bulk of Gujarat economy's is generated from its agricultural and natural resources which includes cotton, sugar, peanuts, groundnuts, various milk products and petrol. The state has produced some of the finest management individuals from IIM, Ahmadabad & designers from NID. Today, Gujarat is amongst the most developed states in the country. It has shown robust growth on almost all parameters of infrastructural development, be it transport, communication, power or Information Technology.

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NIC, Gujarat has provided ICT solutions for many citizen centric services like Issuance of RoR (Record of Right) from gram panchayats, Registration, Property Card, Single window Systems for Certificates and other applications benefiting the masses using the state NIC data center. Some of the key IT initiatives in the state include -

SWAGAT - State-Wide Attention on Public Grievances by Application of Technology

Chief Minister's Online Grievance Redressal System

SWAGAT is an innovative concept that enables direct tripartite communication between the citizens, the officials and the Chief Minister. In Gandhinagar, the fourth Thursday of every month is a SWAGAT day wherein the highest office in administration attends to the grievances of the man on the street. Grievances are logged in, transmitted and made available online to the officers concerned who have to reply within 3 to 4 hours. The departments concerned have to be ready with their replies, before 3 p.m., when the Chief Minister holds video conferences with all the districts concerned. Applicants are called one by one and the Chief Minister examines each complaint in detail. The information sent by the department is also reviewed in the presence of the complainant and video presence of the Collector/District Development Officer/Superintendent of Police and other officials concerned. Attempts are made to offer a fair and acceptable solution on the same day and no applicant has ever left without a firm solution to his grievance. The record is then preserved in the 'SWAGAT' database and a separate log is maintained for each case.

"SWAGAT" has been replicated in Madhya Pradesh and Rajasthan for online Grievance Redressal System of Chief Minister as "SAMADHAN ONLINE" in January, 2006 and as "e-SAMADHAN" in January, 2007 respectively.

Excerpt of the message from Hon'ble CM of Gujarat Sh. Narendra Modi on SWAGAT

"I have been saying that e-Governance is easier and effective governance. True to this spirit, we have devised very futuristic systems and applications based on ICT & ITES. At the basis of these applications lie our major initiatives like State Wide Area Network, Broad Band connectivity to all villages, Jan Sewa Kendras working as one day governance centres, SWAGAT, Integrated Work & Data Management System, complete computerisation of land records, online financial transactions and budgetary exercises. People of Gujarat, whether living within the Sate or outside, can enjoy and boast of the easy accessibility of information and services online. We are still working to make our transactions as digitised as possible. In most of the applications applicable in the State, NIC has played a very pivotal and effective role".

Hon'ble CM Sh. Narendra Modi and Secretary to CM Sh. AK Sharma, IAS with complainant during SWAGAT program

Awards

- Selected as one of the three international best practice case studies on e-transparency from Developing / Transitional Countries in a project sponsored by COMMONWEALTH TELECOMMUNICATIONS ORGANISATION & coordinated by THE UNIVERSITY OF MANCHESTER in 2003.
- Special mention in e-Government category for MANTHAN AWARD for the year 2005.
- Finalist for United Nations Public Service Awards, 2006.

Excerpt of the message from Sh.A.K.Sharma,IAS,Secretary to CM on SWAGAT

"SWAGAT is a very uniquely designed and efficiently managed online grievance redressal system, perhaps unparallel in the world. It has been cited as one of the global success stories in e-transparency & e-accountability. The system has its reach to the Taluka level which means that the citizens can use it sitting there. Moreover, it has the capacity to join all the stakeholders online and bring out final solution to citizens' grievances almost instantly. Hon. Chief Minister's personal involvement and commitment to develop and run this system has added to its credibility and efficacy. NIC's continued involvement and support has made this programme a consistent success".

Xtended Green Node (XGN) for Gujarat Pollution Control Board (GPCB)

XGN has been developed for the GPCB *(http://gpcb.guj.nic.in),* facilitating the users in the day-to-day operations at the Head Office, 13 field offices & more than 17000 Industries. Operating since June-2008 the project has been instrumental in effective implementation of Pollution Control Act, Rules & Notifications. The core of XGN lies in the e-Movement & Online processing of e-Files leading to stoppage of Physical files. There are more than 750 daily concurrent users including Scientists and Industries.

XGN is being replicated in Himachal Pradesh and Uttarakhand.

Gujarat Portal

Information and Service Delivery Solution for Government services in Gujarat

NIC has developed a portal *(http://portal.gujarat.gov.in)* under the guidance of Department of Science and Technology which has integrated service delivery system. It is a sector and citizen based information portal which provides single page for accessing majority of the government information & services.

Gujarat has also developed a service portal *http://gp.guj.nic.in,* which houses many application formats. Application will be processed on the portal and competent authority will give the decision (approve or reject) on the application based on the intermediate office procedures. All authorized government users can

Home page of Gujarat Portal

monitor the system at any level. It has the provision for applying online for any service for registered user of Gujarat Portal.

Gujarat Ration Card Computerization (GRCC)

GRCC is a web based solution *http://grcc.guj.nic.in,* launched in April, 2007 for computerization of more than 10 million Ration Cards in Gujarat. It is a central architecture based system where the connectivity is provided through GSWAN up to the taluka level. The benefits include online G-Register, ration card details & transaction summary, MIS reports for monitoring & management of huge consumer base. The department of food and civil supply is in process of computerizing the kerosene and sugar allocation.

Socio Economic Survey 2002 (BPL List) *(http://ses2002.guj.nic.in)*

The main objective of the project is to prepare the list of Below Poverty Line (BPL) families in rural Gujarat and to identify the beneficiaries for Rural Development schemes based on 13 socio- economic indicators. About 70 lakhs forms were filled up during the survey, which were scanned and converted to database to minimize manual intervention with the data.

e-Dhara (Land Records) & RoR@Village

NIC, Gujarat State developed comprehensive software BhuLekh Soft to capture the day to day land record transactions taking place and implemented it at the taluka level. All 225 talukas (e-Dhara Kendras) of 25 districts are equipped with a server, clients, printers, Bio-Metric Devices (Finger Print Readers), Scanners etc and the transactions are done online.

RoR@Village: Record of Rights (RoR) at Village *(http://ror.guj.nic.in)* is the integration of e-Dhara project with Vishwa Gram project. To start with, facility of issuing RoR is extended to Village Panchayat. The system uses Gujarat State Wide Area Network, SAN setup at NIC Gujarat State Centre and e-DKs. The entire process of filing the request for RoR by village Talati, processing & uploading of RoR by e-Dhara Dy. Mamlatdar and final printout by village Talati to the citizen has been automated.

Jan Seva Kendra

The initiatives taken by National Informatics Centre & District Administrations in Gujarat, to leverage on Information and Communication Technology (ICT) for effective governance have not only resulted in innovation in governance but have also set a role model of e-Governance in the country. "Jan Seva Kendra" *(http://janseva.guj.nic.in)* is all about IT enabled service delivery to the citizens, bringing in the required transparency and eliminating chances of delay, harassment, nepotism & corruption.

The objective of the One Day Governance services is to provide all types of certificates (income, caste, domicile etc), renewals (arms license, hotel license, ration card etc.) to the citizen in One Day and for Non One Day Services an receipt is given with expected time of disposal on it. Services that used to take 5-30 days earlier are now processed in one day. The software has been implemented in 170+ talukas & district centers.

Jan Seva Kendra of Vadodara Collectorate office

Food & Drugs Control Administration (FDCA)

A. Drugs Manufacturing License (Allopathic) Allocation (DMLA)

FDCA is liable to enforce the Drug Acts & rule in the state. The office activities are issue and monitoring of sales license, issue & monitoring of various types of drugs manufacturing license within a state, sampling and analysis of it, inspection of drugs manufacture unit and sales unit.

The FDCA-DMLA covers the computerization of activities related to Allopathic Drugs Manufacturers. Areas covered are issue of fresh license, renewal, additional product permission, approved technical person's details, company Profile, certificate issue, inspection, sampling report and fresh firm registration. *(http://fdca.guj.nic.in/dmla)*

Excerpt of the letter from the Secretary, Department of Science & Technology, Sh. Raj Kumar, IAS, Government of Gujarat

I am glad to know that NIC is planning to bring out an issue of Informatics Magazine which will focus on various e-Governance projects in Gujarat. In my opinion, "NIC is an organisation eminently suitable for a meaningful cross exchange of information of various functional organs of the Government and therefore, has the potential to implement an integrated e-Governance solution".

B. Sales License

FDCA revolves around the Sales and manufacturing aspects related to Food & Drugs including Cosmetics. FDCA head office with 18 Circle Offices stationed in district handle more than one district operations. Each Circle office is headed by an Asst. Commissioner. 4-5 Drug Inspectors looking into field duties. The system is implemented in all circle office since Jan, 2007. *(http://fdca.guj.nic.in)*

Integrated Online Junction on Net (iOjN 4 Planning)

"iOjN 4 Planning" is a web enabled application developed with an objective to smooth the various types of administrative process and to introduce an effective monitoring system for expediting the projects which are sanctioned and funded under Decentralized Planning Schemes. Starting from the proposal, system takes care up to completion of the work.

Pension Information System, Department of Posts

NIC, Gujarat has developed a complete pension system for Department of Posts. It covers Pension Authorization (e-Nivrutti) which automates all the pension activities from inward to outward at DAP level. It supports Provisional Pension, Pension, DCRG & CVP calculation for various classes. It enables the case entry from division office and provides online status of any pension case. Voucher Audit module provides the schedule & voucher entry at dap & head office. It supports voucher generation for monthly pension & arrears due to DA change. It supports reconciliation of paid voucher amount with DAP authorized payment amount for DCRG, CVP and monthly pension.

Judiciary (Gujarat High Court and Lower Courts)

The two websites *http://gujarathighcourt.nic.in, http://gujcourts.guj.nic.in/* provide both static and dynamic information like case registration, cause list, case status daily notices, certified copy etc. of Gujarat High Court & District/City/Taluka Courts respectively. The IVR, online judicial registers, mail services, SMS etc. have also been integrated to help the citizens. All back-office operations are digitized. The roll out for lower courts is in process.

Apart from these NIC, Gujarat has developed a monitoring system for Tribal Development Department *(http://tribal.guj.nic.in),* A complete software solution for Urban Land Records System (property card) *(http://csis.guj.nic.in)* which is under implementation. A document registration system (ReD) which has automated calculation of Market Value & Stamp Duty, generation of notice, capturing of photo and finger print, scanning of document pages to generation of index, Ready reckoner for the land value *(http://jantry.guj.nic.in)* and market value guidelines. The system is implemented in all sub-registrar offices.

Websites and Intranet Applications:

- Animal Husbandry - *http://intranet.guj.nic.in/gahc*
- Agriculture Census - *http://agricensus.guj.nic.in*
- Intra Forest - *http://isfed.guj.nic.in*
- Birth and Death Entry Application - *http://badea.guj.nic.in*
- Commissioner of RTO - *http://intranet.guj.nic.in/rrs/*
- Gujarat Information Commission - http://gic.guj.nic.in
- EMI Employee Market Information - http://emi.guj.nic.in
- Gujarat Assembly - *http://www.gujaratassembly.gov.in*
- Schemes Portal - *http://schemes.guj.nic.in*

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Meghalaya : Using ICT to Metamorphose Governance

Meghalaya - Blessed with abundant rainfall, sunshine, virgin forests, high plateaus, tumbling waterfalls, crystal clear rivers, meandering streams - the state, carved from the erstwhile state of Assam - bounds it on the North and East while the South and West is covered by Bangladesh.

Timothy Dkhar
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NIC - Meghalaya, established in 1988, has left no stone unturned in delivering ICT services to the state and central government offices located in the region, hence laying a strong foundation for e-Governance in the state. It is from here all ICT services for the state emanate.

Infrastructure

The two 45 Mbps leased line serves as a backbone between NIC Meghalaya and N.E INOC Centre, Guwahati, The 2 Mbps lease line connects Shillong, the state capital, with all the seven NIC district centres. SCPC (DAMA) for data, voice and video-conferencing facility are installed at district centres, CM Office and the NIC State Centre. In addition a DirectWay VSAT connects district centres and Sub-Divisional offices.

A state-of-the-art Data centre operates on 24x7 basis. The Storage Area Network (SAN) with a capacity of 4 Tera Bytes is protected with SecureNet Servers, Pix firewall, Anti-virus server, NAT Servers, etc. Various ICT applications and databases are housed at the centre.

A City Wide Network comprising of more than 2000 nodes connects different secretariat buildings, state government departments through Optical Fibre Cable (OFC), Wireless/ Radio Frequency links, 2 mbps leased line, Dial-up etc. The facility has provided internet connectivity, web browsing, electronic mail, virus protection, and many web based applications - delivering G2C and G2E services.

Video Conferencing facilities, commissioned at NIC State Centre, Yojana Bhavan, NEC Secretariat and district centres are being extensively used for meetings, trainings etc. An executive VC system has also been set up at the office of the Chief Secretary, Govt. of Meghalaya.

Web Service

Websites for various government departments / directorates and other organization were designed, developed and hosted at the data center. The official website *http://meghalaya.gov.in* serves as a widow to the cyber world. It has many useful G2C services links, forms download and a host of information related to art, culture, tourism and administrative set up of the state.

Homepage of Government of Meghalaya website

Meghalaya Board of School Education (MBOSE) Results

The results declared by the MBOSE are disseminated at the website - *http://megresults.nic.in* as well as via SMS. The website also provides Result Abstract, Top Ten Merit List, List of all the candidates securing highest marks in each of the subjects and the division wise detailed results.

Major Projects Implemented

Online Computerisation of Treasuries (TreasuryNET): A web-enabled 3-tier architecture, designed with PHP and DB2 database, under Linux OS, TreasuryNET works with a central data server to which the users can access it from client machine located in various treasuries and sub-treasuries throughout the state. Designed on a workflow concept where the data (information) flow from the lower level (Counter) to a higher level (Treasury Officer), which has different roles to access the data. TreasuryNET takes care of all the major activities and transaction of the treasuries.

TreasuryNET Interface

Value Added Tax Application System (VATAPPS): VatAPPS (VAT Applications), a web-based MIS developed using Oracle 10g database and deployed through Oracle10g Application Server is hosted at NIC Data center. The field offices access the application from remote locations. VatAPPS system has the following functionalities and modules: Registration of Dealers , Processing of Returns, Payment of Challans , Way-Bills Administration, Transit Pass & Transit Documents, Declaration Form (Administration of C-Forms). The software has been integrated with TreasuryNET for Challans so that it can generate various statistical reports of revenue collection.

Computerisation of PHEDA Web based MIS for the Public Health Engineering Department comprises of thirteen modules which encompasses the major functions and activities of the department. The application fully automates the various functions within the department right from the Chief Engineer's office down to the Sub-Divisional office. The major modules are: Scheme and Program Management, Contractor and Supplier Information System, Material and Stores Management, Personnel and Payroll System etc.

Personnel Leave Attendance Salary Management Application (PLASMA): PLASMA, an integrated web-based G2G software is designed to simplify the management of Personnel Information of the state government employees. The application maintains the Service books of individuals in an organization, monitors their attendance and also processes the payroll. The salary component of the software seamlessly integrates with the TreasuryNET for faster processing of the salary bills.

Web Based PLASMA Interface

Transport Computerisation (VAHAN & SARATHI): VAHAN 2.0 and the SARATHI software are at various implementation stages at District Transport Offices (DTO's) in the state. Necessary changes were incorporated in the VAHAN application for its implementation in the North Eastern States. Training programs were organized at Shillong for the transport officials.

Computerisation of Khasi Hill Autonomous District Council (KHADC): NIC state center has extended its support & services to KHADC with the implementation of software application comprising of the following modules (i) Professional Tax Information System (ii) Payroll System (iii) Trade & Licensing (iv) Budgeting.

NIC North Eastern Council (NIC NEC): NIC North Eastern Council (NICNEC) was setup way back in 1987. Since its inception NICNEC provided various services and support to the NEC. The services include Video-Conferencing, Internet Services, E-mail, etc through SCPC VSAT. Applications already developed and deployed within the NEC Intranet are IntraNEC portal (G2E/G2C models), NEC Systems Inventory, Call Maintenance (G2E/Office Automation), NEC Library Automation, Comprehensive DDO package from Accounts Informatics Division, NIC Hqtrs. A dynamic website for NEC has also been designed and its URL is *http://neccouncil.gov.in.*

City Civil Court Project: The Case Information System is being implemented in the District court, Shillong, under City Civil Court (CCC) Project. A full fledged computer centre has been set up in the premises of the District Court. All court rooms have been provided with a computer to record the courtroom proceedings. LAN has been installed and commissioned in the office of the District & Session Judge. The Central Server is updated daily with the Cause list and Judgment.

http://districtjudgeshillong.gov.in/

Other Projects Implemented

CIPA Project: Common Integrated Police Application (CIPA), implemented at seven police stations in the state capital, is poised for a roll out to ten more stations across the state. The major modules that are operational are GD entry, FIR, Investigation, Reports & Query.

Energy Billing System: Implemented for the Meghalaya State Electricity Board (MeSEB) the application has been customized as per the new "Meghalaya State Electricity Tariff" and also as per the bill, receipt and report format required by the board. The software has been implemented at Jowai Revenue Division.

Digitization of Land Records and Land Registration: The pilot project for the computerization of Land Records and Registration has started in the District of East Khasi Hills, Meghalaya. Under this Project, a system study has been conducted and the software application development is completed. The Software is undergoing the Testing Phase. Implementation of the Project will commence from July onwards.

Hospital Management System: HMS, a web based application, designed and developed to manage the ever-expanding volume of patients and their health related information. The Hospital Management System has been implemented in Ganesh Das Hospital, Shillong.

Budget Computerisation: Budget Information System - a client-server application running on Window 2003 Server, is developed and implemented in the Finance (Budget) Department for the preparation of the annual budget of the state government. The application caters to the preparation of the state budget and the Supplementary Demand. The budget reports are available on the portal of the state government and its URL is *http://164.100.150.131/budget/welcome.htm.*

Computerisation of Meghalaya Public Service Commission: An application catering to the 'Pre & Post Examination' processes of the commission have been computerised. The various modules of the application are candidate's data entry, preliminary extraction of eligible candidates for payment of examination fees, preparation of statements eligibility criteria, generation of Intimation letters, venue master, roll numbers, admission Card, invigilators identity cards etc.

Computerisation of Shillong Municipal Board: The

computerization of Shillong Municipal Board encompasses Property Tax (Property Assessment and Tax on Property PATP), Water Works and Birth and Death Registration. The PATP module facilitates calculation of Annual Rental Value, Tax under various components, Tax collection, Generation of receipts, Mutation and apportionment of holdings etc. The Water Works module generates bills for commercial and temporary water connections. The Birth and Death registration module registers births and deaths and issues certificates.

NREGS: The online monitoring of 'National Rural Employment Guarantee Act' implemented at all the 39 blocks of the state, in collaboration with the Directorate of Community & Rural Development has been a classic example of G2C services. The ministry's portal is regularly updated with currant information.

CONFONET Project: An intranet based application to record the proceedings of cases registered by complainants or appellants in consumer courts have been implemented in all District Consumer forums and at the State Commission in Shillong. Data entered using the Case Monitoring System helps in Cause list and Judgments uploading at the Central Server located at Delhi.

Computerisation of Election Department: NIC, Meghalaya has been providing extensive technical support for the State Election department in conducting Election in the State for Parliamentary, Legislative Assembly and District Councils Election. A number of applications have been developed and implemented throughout the state namely:

- **Photoroll Application:** The application has been designed & developed to prepare and generate the Photo Electoral Roll of the Government of Meghalaya as per the direction from the Election Commission of India (ECI).
- **Integration Application:** The application has been designed to integrate the database of the Supplementary Data that were generated for each Revision to the Mother Roll database.
- **MERIMS:** This application is used to add, update or delete records for every revision conducted by the Election department.
- **Delimitation of Assembly Constituencies:** This application has been developed and implemented for bulk data migration of records.
- **Randomization of Polling Personnel:** A standardized randomization for Polling Personnel has been developed for allocation of polling duties to polling personnel as per the guidelines of the Election Commission of India.
- **Randomization of EVMs:** A standardized randomization for Electronic Voting Machines has been developed for allocation of EVMs meant for training and polling as per the guidelines of the Election Commission of India.
- **Election Website:** A district-level election website was conceptualized, designed, developed and launched to cater to the needs of the public to get pre-poll and post-poll information on the election process.

COMPACT: This software package from Accounts Informatics Division of NIC has been implemented in six PAOs in Shillong, viz., Regional Pay & Accounts Office (RPAO), MHA, PAO Customs and Central Excise, PAO Central Board of Direct Taxes, PAO CPWD (N.E. Zone), PAO Assam Rifles & PAO Geological Survey of India.

Capacity Building and ICT Training: Training programs are regularly conducted for state and central government employees on windows and office productivity tools. Trainees have to take the CAPES (Computer Aided Paperless Examination System) exam on completion of the training. Professional Training programs, conducted in collaboration with Oracle, Microsoft, Sun Microsystems & Red Hat Linux, augments the skills of the staff of NIC Meghalaya. *i*

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An Exclusive Interview with Sh Sanjay Kumar, IAS, *Finance Secretary cum Secretary Information Technology, Chandigarh Administration*

i The IT Vision 2010 and the IT Policy of Chandigarh Administration has affirmed the promotion of e-Governance on a massive scale for the benefit of citizens. How much has been achieved in it?

The vision of the Administration is to create a knowledge based society, wherein every citizen of Chandigarh is able to access the benefits of our programmes and services through I.T. and I.T. enabled facilities. e-Governance is the most significant aspect of the I.T. Policy of Chandigarh Administration which is a medium for effective interaction between the Administration and the people so that exchange of information and access to government is convenient, leading to a better quality of life.

To give substance to this vision statement, Chandigarh administration has been taking active interest to roll out e-Governance initiatives namely e-Sampark, e-Jan Sampark and Gram Sampark. Project e-Sampark provides multi-service single window convenience to citizens for extended duration Monday to Saturday, 8AM to 8PM. These centres are connected to the State Data Centre and are offering 23 G2C services including payment of taxes, utility bills, passport application, disbursement of old-age pension and other utility services and 5 B2C services. e-Jan Sampark is another project to disseminate useful non-transactional information services to citizens. Citizens can submit their grievances, RTI applications and also seek appointment for Government Hospitals at these centres. Stamp papers and adhesive stamps are available in these centres for the citizens. Not to leave the rural citizens behind and create a digital divide, rural knowledge centres namely Gram Sampark centres have also setup in the same fashion in the villages of Chandigarh. The services provided at all these centres are free of cost.

The success of this e-Governance initiative can be gauged by both the revenue collected and the foot falls in these centres. It has been a key revenue mop-up agent as the revenue shot up to Rs 759 crore in 2008-09 from Rs 403 crore in 2007-08 with an average of around 2 lakh transactions per month.

i North of Delhi, Chandigarh is perceived as an ideal IT destination. What factors do you think have contributed towards this?

The pro-active, vibrant sets of policies are being implemented effectively. It is the cleanest and greenest city in country offering pollution free environment and quality life. It has a geographical advantage of being close to National Capital and is well connected with other cities through Rail, Road and Air links. The Administration is very compact and responsive and is implementing a visionary action plan for holistic development of city. It offers the best infrastructure in terms of connectivity, power, water, health and education. There is no dearth of Human resources availability which is further being upgraded by CTOSS and other initiatives. Chandigarh is

Sh. Sanjay Kumar, IAS
Finance Secretary cum Secretary IT
Chandigarh Administration

home to many world class institutions like PGI, PEC, CSIO, IMTECH. SEZ status accorded to RGCTP is a big attraction. The international airport that is likely to be operational in near future will further boost the USP of Chandigarh.

i What is the current status of National e-Governance Plan (NeGP), which was drawn by DIT and how far has the envisaged benefit gone? Or is it in line with the expectations?

NeGP implementation has been undertaken on priority. Chandigarh State Wide Area Network (CSWAN) is already operational. There are 7 major PoPs (Points of Presence) and around 125 sites. Connectivity is being further extended to other departments. A state of art data centre is also coming up at a cost of around 75 lakh. Common Service Centres for

rural citizens, Gram Sampark, have already been established and are operational in the villages. SPIC Centre is the nodal agency for Capacity Building programme.

i Chandigarh has consistently been ranked as a leader in National e-Readiness Assessment Reports. What reasons have contributed towards this and how is it being sustained?

The major reason for success (or failure) of any project is the monitoring mechanism and the necessary preventive/corrective approach. In addition to these, the Administration has been very pro-active to implement its policies. On their part the citizens have been very 'supportive as well as demanding'. State of art infrastructure serves as a catalyst in effective implementation. Involvement of stake holders having domain expertise served as an added advantage. And every initiative involved careful planing, gap analysis and business process reengineering before it eventually was roled out.

i Chandigarh has a wide array of successful e-Governance initiatives to offer which have won national recognition and can be replicated. What has been NIC's role in giving substance to the plans and policies mooted by Chandigarh Administration?

NIC has played a pivotal role in successful implementation of the various e-Governance initiatives. It has been instrumental in bringing in usage of IT as a tool in the day to day working of various departments/offices. Applications like Chandigarh Administration's Intranet Portal are an ideal interface for G2G and G2E communication from where a plethora of applications can be accessed. A network of more than 500 nodes is being maintained without any downtime. Applications developed and deployed for transport, treasury, police, courts, food and supplies etc. are of immense help. Latest initiative to implement e-Procurement in Chandigarh has also been accorded due priority. Most of the departments have their presence on web because of websites developed and maintained by them.

i What initiatives have been undertaken by Administration to attract IT companies in Chandigarh?

Rajiv Gandhi Chandigarh Technology Park (RGCTP) is a major initiative undertaken to attract IT companies to

The Department of I.T. Chandigarh Administration has been awarded National e-Governance Award (Silver Icon) for Best Government Website. This award was presented to Sh. Sanjay Kumar, Finance Secretary cum Secretary IT, UT, Chandigarh, by Sh. A Raja, Hon'ble Union Minister for Communications & IT, Government of India

Chandigarh and usher this region to a new era of economic growth and prosperity. Once fully established, it shall cover a total area of 662 acres, spread across 3 phases. Sufficient infrastructure has been created by Chandigarh Administration for the companies investing in Chandigarh. There is vast manpower availability in the knowledge sector. Union Government has already accorded SEZ status to RGCTP which will help investors avail the benefits of SEZ policy. RGCTP comprises of flexible options for Technology Companies and plots of various sizes have been made available. The Ready to Build Space developed by the leading developer DLF Limited is spread over an area of 12.5 acres and comprises 6 blocks measuring of total of 650,000 Sq.ft. Many IT companies have already begun their operations here. A five star hotel cum convention centre is coming at 4.5 acre site for the convenience of IT companies. An Entrepreneur Development Centre (EDC) is also being set up by the Administration in an area of 1.5 acres at a cost of approximately Rs. 12 crores. This will provide a state-of-the-art research facility and incubation facilities to software and R&D companies. The Administration is providing residential, commercial, community and sports infrastructure for the IT companies to flourish in a manner that is conducive to their growth. It is envisioned that it will bring in an investment of $600 million and more than 25000 professionals are expected to work here and an annual software export will touch to the tune of Rs.1000 Crores in a year or two.

Interviewed by: Vivek Verma

Broadband Over Powerlines: A Paradigm Shift

An emerging technology may be the newest heavy hitter in the competitive world of broadband Internet service. It offers high-speed access to your home through the most unlikely path: a common electrical outlet.

With broadband over power lines, or BPL, you can plug your computer into any electrical outlet in your home and instantly have access to high-speed Internet. By combining the technological principles of radio, wireless networking, and modems, developers have created a way to send data over power lines and into homes at speeds between 500 kilobits and 3 megabits per second (equivalent to DSL and cable).

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Imagine a world where you don't have to dig up the earth to lay down co-axial cable lines, or where accessing the internet means plugging a small black box into a power outlet in your house. That world may be around the corner. Thanks to the Broadband over Power Lines (BPL), a technology, that threatens to turn the communications world upside down by bolstering broadband competition, lowering consumer prices and wiring rural India.

The key to broadband over power lines technology lies in a long established scientific fact that radio frequency (RF) energy can be bundled on the same line that carries electrical current. Since RF and electricity vibrate on different frequencies, there's not going to be any interference between the two. As such, data packets transmitted over RF frequencies are not overwhelmed or lost because of electrical current.

Model Link: Connecting To Net Over Powerlines

How it works

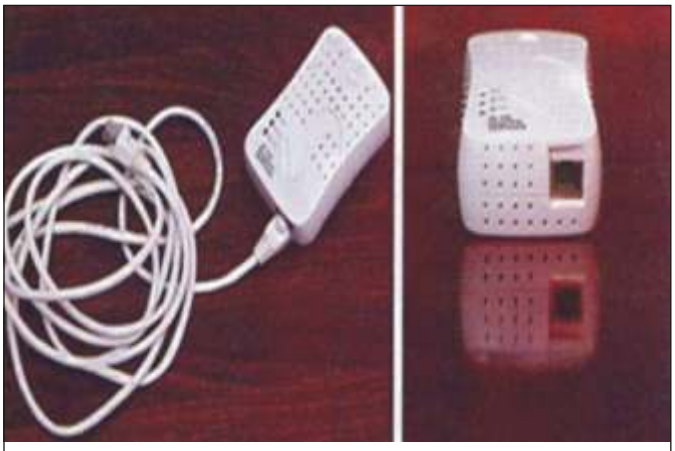
Equipment providers will fix a broadband connection at the end of the power meter right before the line enters your house. Once that is done, the broadband network runs across all available power sockets at home over the power line. A small, black box the size of a Blackberry phone will provide an internet connection when plugged into any electrical socket at home. Compared to other technologies available in India, BPL can be deployed for significantly less money, quicker and with lower maintenance costs,

A BPL network can be laid over a long distance using the 220 volts, 440 volts, 11 kV, 33kV, or 66kV transmission lines over vast distances. It is also capable of handling internet protocol television (IPTV) or even high definition television (HDTV), and is also faster than a wireless internet service.

The technology does have its detractors who claim that it is obsolete, impractical considering power outages in developing countries, and a major disrupter of radio frequencies that are used by government organs such as the military.

BPL's Uses and its Users

BPL, also called power-line communications, was invented in the 1950s in the US but was not considered a serious communication medium due to its limited speed, functionality and high cost then. However, since 1997, experimentation with higher data bandwidth transfer rates across



Non-intrusive equipments that convert electric sockets to broadband access points

electrical grids led to huge advances. In India, the Indian Institute of Information Technology (IIIT), Allahabad, has successfully tested BPL. Jamia Milia Islamia, New Delhi plans to use BPL during the Commonwealth Games 2010 to capture the hairline differences in track and field events that would decide the winner.

However, its most significant undertaking - one that promises to revolutionise communications in the country much like the ubiquitous STD booths did more than a decade ago - is to wire rural India.

The technology could be a life-saver for schools, hospitals as well as internet kiosks which could relay invaluable information about crop prices and weather patterns.

Consequently, a BPL pilot project has been started in villages within 3-10 km of Amethi and Allahabad, all of which have power, but no telephone or internet connectivity. No company will lay down co-axial cable here because the business would be unsustainable, but the BPL solution would cost much less. "The cost of the wireless and this technology is almost the same; hence, both can be adopted according to the terrain;' says B.B. Bhatia, vice-president of Telecom Equipment Manufacturers Association (TEMA).

"It (BPL) is a proven technology and can be a boon for the rural parts of the country," says Ravinder, chief of engineering at Central Electricity Regulatory Commission (CERC). "However, the economics of its commercial applications need to be established."

Not everyone is so upbeat about BPL. Critics stress that talk of the technology has been around for years, with nothing to show for it. "BPL does not hold promise at a time when Wi- Fi and WiMax are on the prowl," says Joel Perlman, president and co-founder of Copal Partners, a London-based financial analytics and Research Company. "It has potential but has to survive strong competition from other technologies," agrees Vijay Madan, executive director at Centre for Development of Telematics. "Further, a number of technical issues need to be resolved."

Another charge levied against BPL is that power lines are great radiators of the frequencies that BPL occupies. Copper wires, co-axial cable, and fiber are all non-radiating, self-shielded mediums, but power lines act like natural antennae and can 'lose' the BPL signal in the air. Consequently, it remains to be seen if the government will allow BPL to thrive if it inconveniences the military, air force or the aviation industry, all of which heavily use radio frequencies.

BPL also is a little dicey in developing countries such as India where the power situation is in shambles, say critics. When even metros such as Delhi and Mumbai suffer power outages for several hours a day, it is unlikely that too many people will opt for an internet connection that is solely reliant on fickle power transmission.

However, proponents of BPL argue that its benefits far outweigh its drawbacks. In many parts of the world, there is as much as a 30 per cent non-technical loss of power distribution in various areas of the power grid. The BPL project, however, is part of the 'Intelligent Grid Network' which utilises advanced technology to remotely monitor power meters. Using a BPL backbone, a utility company is able to deploy a loss detection application that identifies when and where power is being lost.

Offices in corporate India could very quickly embrace a BPL solution despite its drawbacks because of its inherent advantages over Ethernets. Setting up Ethernet LANs involves the breaking of walls or the chiseling of multiple holes in order to snake network cables around the office. Installing external conduits on top of existing construction is often required. This process causes much disruption to an office environment. It mars the aesthetics of the interiors and generates unnecessary additional expenses.

Plug-and-play BPL networks have no such problems. "BPL uses existing electrical power cables or co-axial cables to create an IP network," says Maple Leaf's Parimoo. "Hence, every power outlet in the network automatically becomes an access point for any IP device. This is not possible in an Ethernet LAN environment."

Still, BPL has a long way to go to establish its reliability. But for countries such as India, whose rural populace has no access to affordable communication capabilities, BPL technology might just be the solution.

Informatics, since its inception, has had been an agglomeration of ICT innovations, practices, thoughts, ideas, and beliefs of all of us, be it directly or indirectly. Readers come across the smooth e-Government initiatives, ICT products and services setting exemplary standards in e-Government practices.

Online version of Informatics *http://informatics.nic.in/,* accessible 24x7 enables you to get an up-to-date account on various e-Gov initiatives and projects, is another feature of this quarterly magazine.

To make our efforts more ICT-oriented and worthy, what we need is yours' productive feedback and contributions as well.

Looking forward to hear from you about Informatics July 2009 issue.

You can send your feedback directly to us at the following address:

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Upcoming ICT Events

2009 Conference on Electronic Democracy EDem2009
Vienna, Austria
September 7th - 8th, 2009
http://edem2009.ocg.at/

2nd International Conference on ICT Solutions for Justice
24th September, 2009
Skopje, Macedonia
http://www.ict4justice.org/2009

9th ITCN Asia
August 11th -13th, 2009
Karachi, Pakistan
http://www.itcnasia.com/about_itcn.htm

4th International Conference on E-Commerce
November 3rd -4th, 2009
Penang, Malaysia
http://ecdcconference.com/

The 4th International Conference for Internet Technology and Secured Transactions
9th November, 2009
London, United Kingdom
http://www.icitst.org/

International Conference on e-Government
December 8th -11th, 2009
Antalya, Turkey
http://edem.todaie.gov.tr/egovconference/index.php

International Congress on e-Government
December 29th - 31st, 2009
Bangalore, India
http://www.iceg.net/

Salted Hashing of Passwords

During the course of Penetration testing of Web Applications at Cyber Security Division, NIC, several security vulnerabilities are identified. One of these vulnerabilities includes the finding that the credentials traveling in clear text can be sniffed from the network. The credentials can also be detected with the help of memory editing tools on shared systems which are used to access the authentication web pages. Considering the common nature of these problems and their solutions, throwing light on the underlying concepts is a must read for those targeting the problem while developing secure code in an effective manner. The following section sheds light on the solution to the problem.

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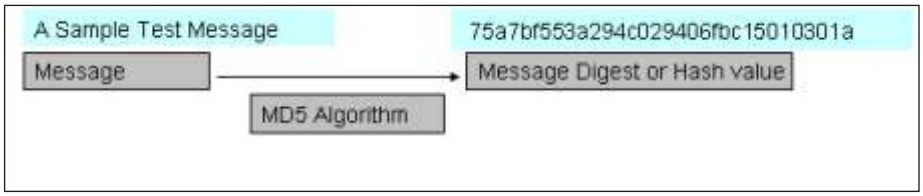
What is a Hash?

Hash algorithms map binary values of an input of arbitrary length to a binary value of a fixed length, known as hash values. A hash value is a unique and extremely compact numerical representation of a piece of data. If you hash a paragraph of plaintext and change even one letter of the paragraph, then a subsequent hash will produce a different value. It is computationally improbable to find two distinct inputs that hash to the same value. A hash value is also known as a Message digest. MD5, SHA1 etc. are Hash Algorithms. The following sections illustrate salted hashing with respect to MD5 algorithm. Other hash algorithms such as SHA-1 may be used alternately.

About MD5

MD5 algorithm takes as input a message of arbitrary length and produces as output a 128-bit "fingerprint" or "message digest" of the input. A SHA1 algorithm produces a 160 bit length hash of the input.

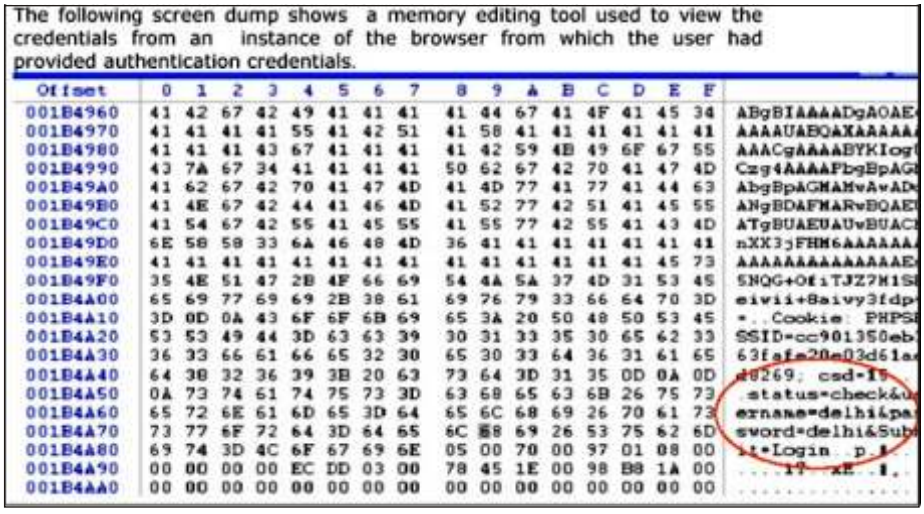


Application of MD5 to protect passwords

- **Problem:** When a site visitor submits his/her credentials on a login page it is submitted in clear text and this can be obtained by malicious users from a browser of a user even though he/she may have logged out.

But to make it possible, the hacker must have access to the user's system, which may be possible in the case of shared system in kiosks etc. Also, another precondition to this is that the browser must have not been closed.

The following screen dump shows a memory editing tool used to view the credentials from an instance of the browser from which the user had provided authentication credentials.



Similarly, this can be illustrated with the help of Network sniffing tools when credentials are traveling in clear text.

- **Solution:** The problem outlined above can be solved with hashing. A hash of the password can be sent from the client browser to the server application. It is not possible to extract the clear text password from the network or from the browser memory as only the hashed form of the password can be obtained.

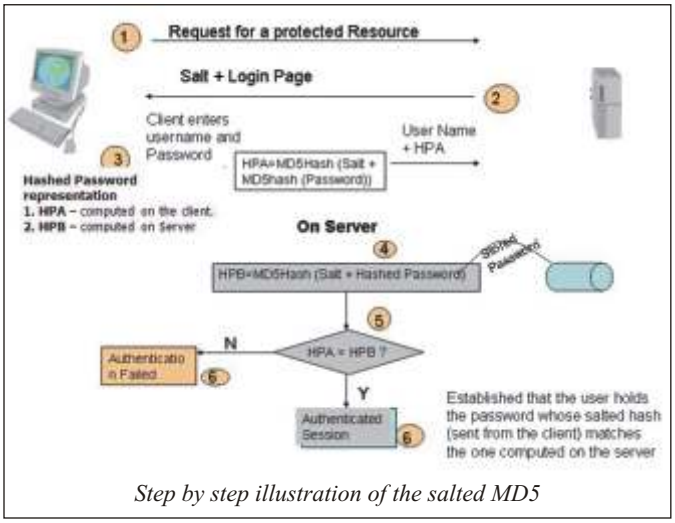
Threat of Hash Replay

However, a hashed password submitted from the client can be sniffed while in transit from the network or obtained from a shared system used to browse the web site with the help of tools. This hashed password can then be replayed or pasted while submitting to the server and access gained as seen from tests in the lab.

Solution: Salted Hashed Password

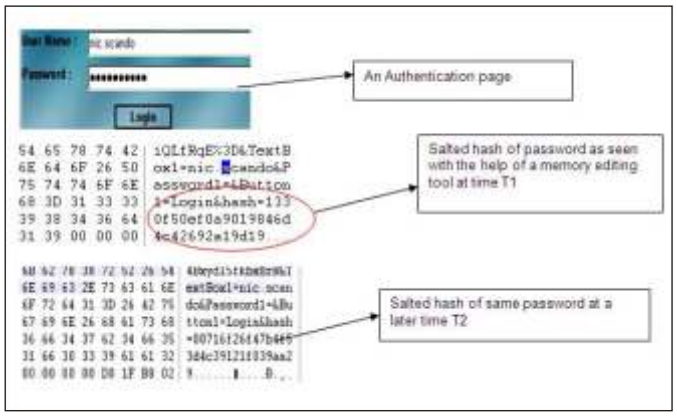
Salted MD5 hash of the password can be submitted to avoid the replay attack. In this case the password will vary every time the salted MD5 password is submitted to the server. Since the salt is a random number and changes every time, the salted hashed password also changes every time.

The pre-requisite to this is that the backend database stores a hash of the password. When a client requests for the login page, the server generates a random number or the salt, and sends it to the client along with the page. A JavaScript code on the client computes the MD5 hash of the password entered by the user. It then concatenates the salt to the hash and re-computes the MD5 hash. This result is then sent to the server. The server picks the hash of the password from its database, concatenates the salt and computes the MD5 hash. If the user entered the correct password, these two hashes should match. The server compares the two and if they match, the user is authenticated. This session persists or is valid till the user logs out or the session times out due to inactivity.



Step by step illustration of the salted MD5

Verification of a salted hash implementation in an application



It can be seen from the above sample snapshots of an application with salted hash implementation in the authentication module, the salted hash passwords are different at the two instances of authentication and hence cannot be used in replay attacks.

Effective implementation of the above steps in the code logic is an adequate defense against the credentials leakage problem encountered in web applications accessed from shared client systems used for browsing authenticated sessions as well as from the network.

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South 24 Parganas : Meeting e-Governance Challenges

South 24 Parganas, the biggest district of the state of West Bengal with its headquarter at Alipore has an urban fringe of kolkata metropolitan city on one side and the remote riverine villages in the Sundarbans at the other. The worlds largest estuarine forest and one of the last preserves of Bengal tiger, Sundarbans, is a vast tract of forest and saltwater swamp forming the lower part of the Gangetic delta extending into the Bay of Bengal. The region is also famous for some commonly domesticated livestock breeds which include the Garole breed of sheep and Chinae hans or Muscuovy ducks. Apart from the Sundarbans the other places of interest in the district are Ganga Sagar and Bakkhali.

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NIC South 24 Parganas, established in 1988, has developed and implemented many MIS and Decision Support Systems towards facilitating e-Governance in the district. The various ICT activities of the district center has created a large repository of information in the form of database which has helped the common citizens by fast delivery of information through setting up of touch screen kiosk. The district center has also benefited from its proximity to the state center in implementing many central and state projects

Excerpt of the letter from District Magistrate Sh. Khalil Ahmed, IAS, South 24 Parganas

I am happy to note that the e-Governance projects of South 24 Parganas District will be published in Informatics, the quarterly Newsletter of NIC. Since the inception NIC has been closely associated with the district administration on its various e-Governance projects.

ICT initiatives by NIC at 5 Treasuries of the District, Transport, Rural Development, Consumer Forum, District Court, Land Registration & Others. Apart from these grass root level planning and support in the implementation on NREGA has been commendable.

The special effort put by NIC officers during elections are extremely helpful in meeting the constitutional obligations.

With ICT based solutions flourishing in the District, it is a wining situation for both common citizens of the District and the administrators.

I am confident that the district administration in coordination and support from NIC will bridge the digital divide and will complete the e-Governance activity up to the grass root level which is yet to be done within my tenure as District Magistrate in the District.

Web site: The Web site of the district - *http://s24pgs.gov.in* as well as that of the Zilla Parishad - *http://zp24pgs.gov.in* were developed and are regularly updated by the district centre. The district website gives detailed geographical, historical, cultural, statistical and other relevant information and activities of the district.

e-Governance projects

Computerisation of Land Acquisition Cases: It is well known that land is most important resource for any development activity it is most sought after by people from all walks of life. Government also needs it for different projects and hence acquires private land from its citizens. The software developed by NIC helps the district administration in monitoring, calculation, notice generation, award generation, Cheque preparation etc for Land Acquisition Cases.

BHUMI (Land Records Computerization): LRC project has been implemented at all the blocks of the district. The software has been

designed, developed & implemented in the district. The database of land records thus created helps in issue of ROR, Mutation and various types of MIS reports for the district administration.

CORD (Computerisation of Registration documents): The software for registration of documents, mainly property related has been implemented in the district. The biometric device incorporated into the system helps in checking impersonation etc. The online system facilitates registration of documents with proper calculation of stamp value as per the property rates fixed by the government. The CORD system has been implemented at 25 nos of Sub Registry Office (SRO's) of the district by the district centre.

Transport Computerization: VAHAN & SARATHI software of NIC revolutionized the transport sector in the district and has been a major e-Governance project. Vahan accomplishes registration of motor vehicles where as Sarathi is for Computerization of License issue. The software has helped in the following activities - Collection of Govt. Approved Fees for Printing of Registration Certificate (RC) Book and Driving License (DL), Printing of RC & DL of Smart Shield Oriented Card, Collection of various taxes fees as per the act, Automated application tracking system etc.

TIS (On Line Treasury Information System): Online Treasury Information system is successfully running at the district. The system was developed by NIC, and it facilitate, on line acceptance of Bill, processing of bills, Computerised cheque generation and Monthly account preparation.

COSA: "Computerisation of Salary Accounts' has been implemented at all the Govt. offices at the district, sub-divisional and block level. The system has helped in the generation of monthly pay bill, pay slip and various monthly schedules required by the treasury.

Rural Development: The district centre developed customized software to monitor various schemes related to rural development. Implementation of NREGA, which is operational at 312 Panchayats of the district, has ensured ICT benefits to the poorest of the poor.

GPMAS: Gram Panchayat Management & Accounting Systems implemented at the district has been a major ICT effort to bring e-Governance at the panchayat level which covers services like Birth & Death Registration, Issuance of Birth & Death Certificates, Issuance and registration of Trade Certificate and Maintenance of accounts.

Election Support: Computerized management of elections (Assembly / Parliamentary / Municipal / Panchayat) by the district centre has helped the administration to greatly simplify various activities like Preparation of Polling Personnel and Counting Personnel, Randomisation and generation of Appointment letter for Polling Duty & Counting Duty, Counting Management System and flow of information between District Election Officer & State Election Commission etc.

Pre-litigation and Counselling Cell Management System for WB Women Rights Commission (WB-PLCCMS): Software was developed and implemented to provide total solution to the WB Women Rights Commission starting from pre-litigation and counseling process, receipt of applications and consequently up to the disposal of such applications.

Online Pesticide Licensing System (AGRISNET): The district was selected as the pilot for monitoring & issuance of pesticide license. The system is fully functional and the beneficiaries are handed over the license using the system.

Online Pesticide Licensing System being reviewed

Capacity Building: Regular project based training and orientation programs are conducted by the District centre for district and Block level officials to promote ICT awareness in the district.

For Further Information, contact:
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South 24 Parganas
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Edited by: Prashant Belwariar

Angul: Pioneer in e-Governance

Angul, a centrally located district in the State of Orissa came into existence on April 1, 1993. Area wise, it is the 11th largest district of Orissa. Angul, situated on the National Highway No 42 is accessible from all parts of the state.

Angul has contributed to the rich and glorious culture along with socio-economic development of Orissa. Vast coalmines of Angul fetch huge revenue return to the government. The district is the abode of big industries like National Aluminium Company (NALCO), Mahanadi Coalfields Limited (MCL), National Thermal Power Corporation (NTPC), Heavy Water Plant, Talcher etc. Mahanadi and Brahmani rivers rush through the district making it fertile.

S.K.Chatterjee
District Informatics Officer
sk.chatterjee@nic.in

Angul district joined the information & communication technology era with establishment of National Informatics Centre, Angul District Unit. Creating mass awareness of informatics culture among the officials of District Administration and other district level departments, NIC Angul has become the hub of all major e-Governance activities in the district with the successful implementation of many ICT projects. The official website of Angul district *http://angul.nic.in* contains vital information about the district.

NIC District Centre, equipped with the state-of-the-art hardware has been catering to IT support services for the District Administration, DRDA, district level offices of Government of Orissa.

Excerpt of the Letter from Sh. S. N. Girish, IAS, Collector & DM, Angul

I am very happy to know that the "INFORMATICS" is going to publish the success story of implementation of various e-Governance Projects of Angul District. The official website of the district http://angul.nic.in which has been designed, developed and hosted by NIC, Angul District, already crossed 1 lakh visitors and it successfully represents "e-Angul" to the whole world.

NIC Angul District Unit has always played a pivotal role for spreading informatics culture in Angul District. The active support rendered by NIC, Angul during the just concluded Election-2009 was commendable and it helped District Administration to conduct the election process in a more organized and impartial manner.

I appreciate the efforts made by Sh. S.K.Chatterjee, DIO, NIC, Angul for his contributions & active support to District Administration, Angul in all spheres to make e-governance a true success in Angul District.

Major e-Governance Initiative in Angul

National Rural Employment Guarantee Act (NREGA) *(http://nrega.nic.in)*: This web based e-Governance application has been successfully implemented in Angul to monitor different works, preparation of muster roll and UC etc.

SAMPARK: This Citizen Interface Counter is established in all Tahasils. The citizen can get ROR Copy, Caste & Residential certificates etc. Online mutation entry can also be made in this counter without delay by using "BHULEKH" Software.

Indira Gandhi National Old Age Pension Scheme (IGNOAPS) & Integrated Child Development Services (ICDS): These software have been successfully implemented and used by District Social Welfare Office, Angul.

Election Computerisation: NIC

Angul supported District Administration in Election Computerisation work for various phases of election during Lok Sabha & Assembly Election - 2009.

e-Gazetteer: The CDROM Version of District Gazetteer, the first e-Gazetteer of the district is a reflection of history, economy, society, culture, polity, and education of modern Angul.

Sh. Naveen Patnaik, Hon'ble Chief Minister, Orissa inaugurating the e-Gazetteer of Angul District

Land Records: Under a major e-Governance initiative in Angul, Land Records Project has been taken as a Pilot Project by DIT, Government of India.

Agriculture Sector under Transparency & Accountability Programme: Angul District has been selected as Pilot District for development and implementation of a Web based Information System *http://ori.nic.in/agrisnet* in Agriculture Sector under Transparency & Accountability Programme.

AGMARKNET: The AGMARKNET software has been successfully implemented at different RMCs in the district (Angul, Talcher, Jarapada) for entry of daily arrivals of quantity & rates of different commodities. It enables to see the rates of different markets throughout the country.

CONFONET: CONsumer FOrum NETwork project has been implemented in Angul to keep track of all consumer cases and their judgments.

Small Savings Information System: This system is implemented & used by Small Savings Section of Collectorate, Angul to monitor detail collection & deposit position under different small saving schemes.

Public Grievance Cell Monitoring System: It has been implemented at Collectorate, Angul to generate reports such as Officer wise pending list, Category wise list, Grievance list & other report etc. helping the Administration to monitor public grievances in a more effective manner.

Gun Licence Information System: This database system helps District Administration to monitor & prepare reports of Gun licence holders of the District, renewal of Gun Licences etc.

Urban BPL Census: The software has been successfully implemented for different urban local bodies of the District including Talcher & Angul Municipality and Athamallik NAC.

District Court Computerization: NIC Angul extends all necessary support to the District Court on their Computerization activities. The Judicial Officers & staff of District Court have been trained on operation of e-Court project.

DIC Computerisation: District Industries Centre has been computerised to monitor details of Small Scale Industries (SSI) gone into production, PMRY schemes etc.

Computerization of DRDA: Rural Development Project Monitoring System (Ruralsoft), Panchayat Raj Accounting System (Priasoft), BPL Census Computerisation, Gramsat Implementation at DRDA & Blocks are being coordinated by NIC.

NIC Video Conferencing Studio: The Video Conferencing Studio has been established at NIC, Angul & it is extensively used by District Administration and other Government departments for monitoring of various developmental activities in the district.

Training: Regular training is being provided to the staff of District Collectorate and other offices on use of ICT in administration and for various Application packages.

For further details contact:
District Informatics Officer
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Angul District Unit, Orissa
angul@ori.nic.in

Edited by: R. Gayatri

Kota: Promoting ICT Culture in the Land of Rajputs

Situated at the South-Eastern Hadoti region of Rajasthan on the bank of Chambal River, Kota is an awesome collocation of imperial medieval age and modern industrialisation. The existing industries and the on-going development have made Kota the industrial heartland of Rajasthan. It is a well known "Education City" now.

Kota was a part of the Rajput kingdom, Bundi. But, with the arrival of the 17th century, it gained an individual identity and established as a separate princely state. It then became a hallmark of the Rajput culture. It is a Divisional Headquarter and well connected Railway Junction between Mumbai and New Delhi.

Mukesh Kr. Jha
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Deepak Bhatia
District Informatics Associate
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Since its set up in 1988, the Kota District Unit of NIC is playing a vital role to promote ICT culture. It regularly supports the District administration as well as other Government departments in better planning and decision support and has developed and implemented many e-Governance projects.

Excerpt of the letter from DC&DM Sh. Ajitabh Sharma, IAS, Kota, Rajasthan.

In the present era of IT and Computerisation the initiative of computerisation taken by NIC, Kota is a step in the right direction and has certainly helped the District Administration and Citizens of Kota.

The efforts being put in by NIC, Kota to improve the service being provided to the people are truly appreciable. I am certain that this drive will continue and wish to convey my sincere thanks for implementation of Land Records Computerisation, Treasury computerisation, Arms Licence computerisation, Public Grievances, Ration Cards Computerisation etc.. The role of NIC in the recent Election processes is commendable.

Once again I wish to express my sincere thanks.

Key ICT Activities

Flood Relief Monitoring System: Developed s/w for District Administration to calculate and distribute flood relief to persons whose houses and crops were damaged in Flood.

District Jail Computerisation: Implemented the modules "Prison management System" for information about the Prisoners and "Visitors management System" for visitors coming to meet the Prisoners, at District Jail.

Vidhan Sabha Election 2008 and General Elections 2009: Supported the district administration in successful conduct of the elections process by undertaking various polling activities.

e-Gram Monitoring System: Successfully implemented the Chief Minister Office project e-Gram Monitoring System. Imparted training to Gram Prabharis of Villages of all 5 Panchayat Samitis for filling of EG-1 and EG-2 forms and these forms are fed online for effective monitoring.

Website for Kota District: Developed the website *http://kota.nic.in* for District

kota.nic.in

Administration and *http://kotadivision.nic.in* for Divisional Commissioner, Kota. Both websites furnish immense information of interest to general public.

Online Counseling: Rajasthan Technical University, Kota (RTU) conducted Online counseling for Rajasthan Pre Engg Test-2008 (RPET) for admission to 1st year in BE/B.Tech/B.Arch course and Rajasthan Management Admission Test-S2008 (RMAT) for admission in MBA course in collaboration with NIC.

House Allotment System: This s/w helps to allot the Government accommodation to Govt. Employees and generates the list of occupied and non occupied houses, unauthorized possession of houses, Notesheet and Allotment letter.

Arms Licences: Backlog data entry of a total of 21538 pages of Arms Data from 75 old Registers has been completed and new registers printed. It has facilitated generation of different useful reports. The process of Renewal has also been simplified.

Land Records Computerisation: All 947 Jamabandis of all 5 Tehsils viz. Ladpura, Digod, Pipalda, Sangod and RamganjMandi of Kota District have been computerised and ROR (Copy of Khata) are being issued to citizens regularly.

Treasury Computerisation: All modules of Treasury Computerisation and Sub-Treasury Computerisation viz Compilation of Receipts and Payments, Data Depository System, Pension Monitoring System and Payroll system have been implemented successfully

Public Grievances: A windows based Public Grievances Redressal s/w has been developed and implemented. Applicant gives their complaints to the Collector which is sent to concerned officer after registration. Reminders and a D.O. Letter to the related Officer are automatically generated.

MIS for NREGS: Effective monitoring of the program NREGS under National Rural Employment Guarantee Act-2005 necessitates Computer Based Monitoring. The Offline software has been installed at all 5 Panchayat samitis and Training given to MIS Managers and other deputed staff. Data feeding and uploading on the website is being done regularly.

Krishi UPAJ Mandi Computerisation: Implemented s/w in all 3 mandis (Kota, Itawa and Ramganjmandi) in Kota District and daily Market prices and arrival details are being sent to DMI, Delhi using this s/w.

Gram Nirdeshika: Gram Nirdeshika is a very useful database, compiled at NIC, Kota. The database provides standardised and valuable informations about villages and important persons like the Sarpanch for use in other applications.

Video Conferencing at VC Studio, Kota

District Collectorate LAN: A network of 75 Nodes has been setup in the collectorate which has resulted in data and information exchange. It is being mantained for anti-virus, patches and service pack updates of the clients.

Videoconferencing Project: Video Conferencing Studio is being used to organise Video conferencing between District level Officers and their respective Ministers as well as their Secretaries / Directors.

Training at district: Regular training sessions conducted for LDCs of Collectorate, Junior accountant of Treasury & Sub-treasury and Patwaris of Patwar Training School and Salso coordinated training to Resource Person Patwaris under LRC project.

Support to Computer Sections of Other Department: Pension Office, FCI, Ration card computerisation, Krishi Upaj Mandi Samiti, District Collector, Divisional Commissioner, Police, District Supply Officer, Ramganjmandi, Zila Parishad etc.

For further information, contact

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NIC District Unit
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Kota, Rajasthan- 324001
Ph.: 0744-2320663 (O)

Edited by- Vivek Verma

International e-Gov Update

The Department of Immigration and Citizenship goes online in Australia

The Department of Immigration and Citizenship of Australia has been highly appreciated for the successful implementation of Visa Wizard and Citizenship Wizard project. This has been the most outstanding initiatives in e-government in Australia that have been implemented in the past year.

The Visa Wizard is an interactive, client self-service tool designed by the Department of Immigration and Citizenship (DIAC) to provide prospective travellers and migrants with customized information about their visa options. Equally the Citizenship Wizard provides citizenship information to the users based on their individual circumstances. Both Wizards are easily accessed via the Internet 24 hours a day, seven days a week from anywhere in the world. This new internet-based tool enables easier access to clear, consistent and instant information.

Visa Wizard and Citizenship Wizard project has developed an interactive, self-service tool for its citizens and others seeking information about visa and citizenship requirements in Australia.

It also highlights how ICT can be resourcefully applied to the delivery of government services, not only for the benefit of the citizens, but also for prospective Australians and visitors to the country. Definitely, this project will improve the efficiency and effectiveness of government administration and service delivery.

In fact, these products help highlight Australia as an innovator in the development and delivery of e-government services and promote further innovation in the Government sector.

Visit : • *http://www.immi.gov.au/visawizard/* • *http://www.citizenship.gov.au/citizenshipwizard/*

One-stop doorway for Northern Ireland citizens

Government of Ireland has set up an official website for its citizens classifying into different segments e.g. young people, people with disabilities, parents, citizens over 50s, jobseekers and lot more. The portal aims at delivering information on various aspects such as travel and transport, crime, justice and law, education and learning, health and well being instantly.

The portal also covers issues related to motoring, property and housing, employment, environment and greener living, taxation, citizens and rights efficiently as well as effectively.

Video section contains videos on several issues like swine flu awareness, parenting, travel and others. Videos are categorically divided into: Browse by people, Browse by subject.

Contact Section make citizens easy to find government departments, public bodies and local councils. It is a tool to find contact information for the public sector, charity and voluntary organisations in Northern Ireland.

Not everyone lives in a 9 to 5 world, and Do it online service means one doesn't have to. Do it online service is an agglomeration of convenience, security, ease of use, speedy, flexible that enables the citizens to access all the benefits any time and any place respectively.

This is very fast, cheap and innovative ICT step of the Northern Ireland Government enabling the citizens get things done without getting intricate into the complicated manual or paper filling forms.

Visit: *http://www.nidirect.gov.uk/index.htm*

Official website of UAE Prime Minister launched

An official website *www.uaepm.ae* for Prime Minister of the UAE has been launched as part of an effort to improve communication between the UAE Prime Minister and citizens and residents in the UAE. The website is a good platform for all official information related to the Prime Minister and the federal government of United Arab Emirate.

The official website is available in both Arabic and English, and it covers a variety of important areas. A section is dedicated for presenting the roles and responsibilities of the vice president and prime minister of the UAE. Others sections are dedicated for covering the daily news of His Highness the Prime Minister, the latest developments at the federal government level, as well as His Highness's statements, quotes, and speeches at the various occasions. The website also covers the basic principles, goals, and highlights of the UAE federal government strategy, the biographies of previous prime ministers, along with information taken from the UAE constitution about the structure and specialization of the Cabinet as well as the different entities representing the authority of the Federal Government.

Similarly, and reaffirming the guiding principle of positioning citizens and residents at the core of government efforts and in the centre of its strategy, a page has been established to enable everyone in the UAE to communicate directly with the Prime Minister of the UAE. Users can fill electronic forms to raise their comments and suggestions about any matter related to the federal government of the UAE through the website: www.uaepm.ae.

This portal is created in line with the Dubai eGovernment initiative for a better public interaction with the government agencies.

Visit: *http://www.uaepm.ae/en/index.html*

SMS Service for tracking ID, Passports in Kenya

As a new initiative of Kenyan government, the service called e-Service Delivery Project was launched in Nairobi recently. Now the Citizens of Kenya can track the application status of their Identity Cards and/or Passport, both online as well as by SMS.

An SMS service that allows applicants of passports to track the processing of their Identity Cards and Passports has been highly appreciated and welcomed by the citizens. The new e-Government service would save citizens, especially those living upcountry, time and money. At the cost of five shillings, members of the public will be able to access and query the manner and speed at which the Government is delivering services.

Online tracking allows citizens to track at their own convenience whereas the SMS service will initially be available to only subscribers of Safaricom service provider. This allows a user to either go straight to the National Registration Bureau (NRB) Services or the Immigration Services. The applicant needs to send an SMS of the tracking number to 2031 for ID and 2032 for Passport.

This e-Service is a communication and information sharing forum between citizens, Ministry of State and Registration of Persons, Public Sector Reform and Performance Contracting (PSR&PC) and the Directorate of e-Government.

The SMS e-Service Delivery Project is an interactive communication. It entails:

- Customer enquiries
- Institutional responses
- Tracking of service status

The government will expand this service to cover other key areas of service delivery such as Lands and Health. The project is a joint effort of departments of immigration, e-government and public sector reforms.

Visit: • *http://www.immigration.go.ke/index.php?id=25* • *http://www.identity.go.ke/search.html*

Compiled by: Informatics Team.

Cyber Governance

A look at some of the recently launched Indian Government Websites….

Director General of Aeronautical Quality Assurance *(http://dgaeroqa.gov.in)*

The official website of The Director General of Aeronautical Quality Assurance (DGAQA) under Ministry of Defence Production, Govt. of India is an attempt to provide a bird's eye view of the organisation and its functionalities. The aesthetically designed site caters to a slew of relevant information on the organisation's Activities & Achievements, Interactions of DGAQA with other departments under Ministry of Defence, Roles and Functions regulated by various rules and regulations, and the organisation chart with the Director General at the helm. The home page of the site advertises various tenders issued by DGQA and notifies about the upcoming events of the organisation along with a photo gallery.

Institute of Food Security *(http://ifsweb.nic.in/)*

The Institute of Food Security, a division of FCI is the flag bearer for spreading awareness about quality food in India. *http://ifsweb.nic.in/* is hosted with the objective of benefiting general public, keeping constant evaluation of the training standard parameters, taking timely corrective and preventive actions related to food. Various trainings related to food security and safety, right to information, links related to various government departments, and bulletin board enables common mass to have access of various aspects of food storage and safety in India. The portal is accessible in Hindi also. Every endeavor has been made make the site up-to-date and purely for public facilitation.

Himachal Pradesh Fisheries Department *(http://hpfisheries.nic.in/welcome.asp)*

The website of Fisheries Department, Himachal Pradesh is developed to provide complete information about fisheries in the state. It also gives important information about Fisheries Acts, various Schemes of Fisheries Department, and Fisheries growth in the state and also information about different kinds of fish. Help-line section of the website is meant to provide required information related to fisheries to the citizens. The department has done phenomenal growth in terms of Research & Development and achieved milestones. The website illustrates about various Tenders, Workshops and other relevant information for fishermen in particular and common mass in general.

National Rural Health Mission, Chandigarh *(http://nrhmchd.gov.in/)*

The newly launched National Rural Health website of Chandigarh Health Department, is a gateway to provide equitable, affordable and effective health services to the general public at large. The website promotes various policies that strengthen public health management and service delivery in the UT Chandigarh. Various programmes and activities of the health department; news and events and a set of goals, objectives and guidelines are nicely incorporated in the portal. The contents are maintained and updated regularly by National Rural Health Mission, Health Department, Chandigarh. For any further queries and comments regarding contents of this portal, one can even send mails at *nrhmchd@gmail.com* .

Reviewed by: **Lokesh Joshi,** NIC HQ

National Portal Update

ISO Certificate for National Portal of India

Standards ensure desirable characteristics of products and services such as quality, environmental friendliness, safety, reliability, efficiency and interchangeability - at an economical cost. National Portal of India (NPI) *(http://india.gov.in)* achieved another mile stone and has got Certification for ISO Standards 1. ISO 25051:2006 Software Engineering, SQuaRE, 2. ISO/IEC 9126-1:2001 Software Engineering Product Quality and 3. ISO/IEC TR 9126-2:2003 Software Engineering External Matrix for its Functionality, Reliability, Usability, Efficiency, Maintainability and Portability.

CERTIFICATE OF APPROVAL

This is to certify that Software Product

"National Portal of India (NPI) Version 1.0"

of

National Informatics Centre (NIC), New Delhi

fulfills the requirements of Software Product Evaluation and Certification Scheme of STQC Directorate Department of Information Technology

The scope of this Certificate of Approval covers

Standard : • ISO 25051: 2006 Software engineering – Software product Quality Requirements and Evaluation (SQuaRE) – Requirements for quality of Commercial Off-The-Shelf (COTS) software product and instructions for testing
• ISO/IEC 9126-1:2001 Software engineering - Product quality - Part 1: Quality model
• ISO/IEC TR 9126-2:2003 Software engineering – Product quality - Part 2: External metrics

Quality Characteristics : • Functionality
• Reliability
• Usability
• Efficiency
• Maintainability
• Portability

Product Developing Organization & Address : Data Centre and Web Services Division, National Informatics Centre, Government of India, Department of Information Technology, Ministry of Communications and Information Technology, A-Block, CGO Complex, Lodhi Road, New Delhi - 110 003 India

Evaluation Report Reference : STQC/IT-Delhi/NIC/NPI/ER-001dated 24th March, 2009

Registration Number : STQC IT/SPEC/2009/02

This certificate is valid up to 26.03.2012.

Date 27.03.2009

for STQC Directorate

STQC Certification Services
Department of Information Technology
Government of India
Electronics Niketan, 6, C.G.O. Complex
Lodi Road, New Delhi - 110 003

Standards make an enormous positive contribution to most aspects of our lives.

The initiation process for ISO Certification was started in March 2008 and for this **STQC Certification Services, DIT** was approached.

As initial requirement from the **STQC**, a detailed document was prepared for **NPI** along with the Content Management System (CMS) for NPI. The document contained Hardware and Software Architecture, the complete sitemap of NPI with its different search options and CMS along with Content Workflow Diagram with its functionality which was submitted to the STQC for evaluation. The entire NPI was thoroughly audited by STQC as per our document and evaluation report was submitted to us. After evaluation STQC reported some error along with some suggestions for improvement which were fixed and again Action Taken Report was submitted for second round of auditing. In the process of auditing and evaluation STQC not only tested the functionality, they used Testing tools for Stress Testing also interviewed the users and analyzed the feedbacks and response of the feedback which includes the remedial actions taken. The process was again repeated and the certificate was issued after third round of evaluation process. The parameter on which certification was based is illustrated below.

ISO/IEC 25051:2005 defines quality requirements for COTS (Commercial off the Shelf) software products. A COTS software product includes the product description, the user documentation, and the software contained on a computer sensible media. The quality requirements, functionality, reliability, usability, efficiency, maintainability, portability, and quality in use are consistent with the definitions of Software Quality Requirements and Evaluation (SQuaRE). The parameters on which certification was based is illustrated below.

ISO/IEC 9126-1 defines terms for the software quality characteristics and how these characteristics are decomposed into sub-characteristics. ISO/IEC 9126-1, however, does not describe how any of these sub-characteristics could be measured.

ISO/IEC TR 9126-2 defines external metrics. An external functionality metric should be able to measure an attribute such as Functionality, Reliability, Usability, Efficiency, Maintainability and Portability.

India.gov.in now meets the quality characteristics of Functionality, Reliability, Usability, Efficiency, Maintainability and Portability.

Vir Bikram Kumar, NIC HQ

In the News

First State Level Workshop on National Land Records Modernization Programme ,Haryana

DROs and DIOs participating in the workshop

NIC Haryana State Centre and Department of Revenue and Disaster management, Haryana organised one day workshop on National Land Records Modernization Programme (NLRMP) on March 6, 2009 at Haryana Institute of Rural Development, Nilokheri (Karnal). The workshop was attended by all the District Revenue Officers, Tehsildars and District Informatics Officers of the state.

The components of NLRMP, Funding Pattern, Implementation Strategy, Requirements of GPRs and LRs, Citizen Services, Milestones, Digitization of Cadastral Maps and Mussavis and integration with HALRIS and HARIS, Capacity Building and Requirements to usher in Conclusive Titling System with title guarantee, to replace present Presumptive Title System were deliberated in detail.

Hari Chand, Haryana

msmeonline.tn.gov.in

Online facility for MSMEs to apply for Subsidy:Tamil Nadu

Entrepreneurs in the Micro, Small and Medium Enterprise (MSME) sector can file the Subsidy application Online and can get the acknowledgement immediately. The Online facility was inaugurated on February 12, 2009 by the Principal Secretary, MSME, Government of Tamil Nadu.

The Entrepreneur who wants to apply for Subsidy can visit www.msmeonline.tn.gov.in and can file online application for Capital Subsidy in the format prescribed by Government of Tamil Nadu.

The system has the facility for all DICs to login and process all the applications filed online. The system facilitates the DICs to capture the details at the following stages:Field Inspection, Sanction, Disbursement

The website also provides a facility to the Commissioner of Industries & Commerce to monitor the applications filed online.

R.Gayatri, Tamil Nadu

Inauguration of Official website of Cuttack Development Authority (CDA),Orissa

cdacuttack.ori.nic.in

Recently, Hon'ble Minister, Housing and Urban Development, Sh. Kanak Vardhan Singh Deo has inaugurated CDA's website *http://cdacuttack.ori.nic.in* in the CDA premises, Cuttack. This website has been developed and hosted by National Informatics Centre, Bhubaneswar.

Dignitaries present in the inaugural ceremony include Sh. B. K. Dhal, IAS Vice Chairman, CDA, all executive members of CDA.

The website provides various information on functioning of CDA, Projects under Residential & Commercial, Planning regulations, Comprehensive development plan, Functioning of different departments under CDA etc,. Citizens could be able

to download different forms from "e-Forms" section, Tender details, Acts & rules etc.

Addressing the audience Hon'ble Minister informed that this website is going to be the one point information centre for the public with integration of several web-based dynamic modules being developed by NIC, Bhubaneswar and expressed his satisfaction on web contents.

VC, CDA appreciating the effort of NIC team, expressed that the web-enabled e-Governance modules for CDA will not only provide hassle-free service to public but also help CDA in monitoring the activities and obtaining necessary information as and when required.

Smt. Nirupama Mohapatra, Technical Director, Sh. Dillip Kishore Mohanty, Scientist-C have coordinated the programme.

A.K.Hota, Orissa

Training on web based PlanPlus Software, NIC Haryana

The National Informatics Centre, Haryana arranged one day training programme on web based PlanPlus Software on April 29, 2009 at Department of Rural Development, Haryana, Chandigarh. During First Session of training programme, the PlanPlus Work Flow was explained to the participants and a Mini Plan was made. In Second session, Hands-on practice was conducted on the plan made during first session on PlanPlus Software.

The operations of web based software i.e. *http://panchayat.gov.in* (training purpose) were thoroughly explained to the participants. Also, the actual data entry on the site *http://panchayat.gov.in/planplus* was demonstrated. Total 20 Officials attended the training programme from BRGF Districts Sirsa and Narnual.

PlanPlus State Level Workshop in Progress

Hari Chand, Haryana

Smt Sinha(C) publishing the results along with Smt Khalko(L) & Sh. S Ahmad(R)

Online Secondary School Examination Result 2009: Jharkhand Academic Council

The JAC Secondary School Examination Result 2009 was published on the website *http://jharresults.nic.in* on May 9, 2009, by Smt. Mridula Sinha, HRD Secretary, Jharkhand. Smt. Rama Khalko, Mayor Ranchi, Sh. Shaligram Yadav, Chairman JAC & others senior officials of the government were also present during the results publication ceremony which was held at the JAC Building, Namkum, Ranchi.

The Jharkhand Academic Council is a statutory body and conducts examinations every year for the schools, which are affiliated to it. More than three lakhs fifty thousands students appeared in the 2009 examination and their results were published. The results were also sent via emails to those students who registered themselves on the website before the publication.

The day was marked with more than seven lakhs hits on NIC data center server. Necessary technical support for the publication of the result was provided by Sh. K Ganesh, Scientific Officer/Engineer under the guidance of Sh. S K Mohakul, TD and Sh. Shahid Ahmad, SIO, NIC Jharkhand.

Prashant Belwarier, Jharkhand

Hon'ble Chief Justice inaugurating the VC facility at Khunti Civil Court

Videoconferencing Facility between District Civil Court and Sub Jail inaugurated, Khunti, Jharkhand

The videoconferencing facility between Khunti District Civil court and Sub Jail was inaugurated by Hon'ble Chief Justice Smt. Gyan Sudha Mishra, Jharkhand High Court at an impressive function on May 23, 2009 in the presence of Hon'ble Justice Sh. Amrashwar Sahay and Hon'ble Justice M Y Eqbal and other senior officials of the District court.

After the inauguration, the new VC facility was demonstrated to the Hon'ble Chief Justice of the High Court. Speaking over the VC system, the Hon'ble Chief Justice discussed the benefits of the new facility with Sh. Deepak Vidyarthi, Jail Superintendent, Ranchi who was present at Khunti Sub Jail. Sh. Vidyarthi informed the Hon'ble Chief Justice about the excellent technical support given by NIC team led by Sh. S Ahmad, SIO, for getting the VC system operational.

The VC facility between district civil court and jail is being implemented by NIC, Jharkhand on turn key basis for the state government.

Prashant Belwarier, Jharkhand

Workshop on "Website Quality, Accessibility & Security"

Chief Secretary, Government of Madhya Pradesh delivering keynote address

On NIC's initiative, a workshop on "Website Quality, Accessibility & Security" was jointly organised on April 2, by State IT Department and School of Good Governance & Policy Analysis (SGPA), in collaboration with NIC, State Centre, Bhopal, STQC & gtZ (The Deutsche Gesellschaft für Technische Zusammenarbeit). The workshop was attended by more than 250 participants, including, Principal Secretaries, Secretaries, Head of the Departments, Chief Information Officers (CIOs), ACIOs & Web-Masters from various Departments of the State Government, among the others.

In his keynote address during inauguration session, the Chief Guest of the workshop, Sh. R.C Sahni, Chief Secretary of the State, focused on the need of up-to-date information and services on the website with full security and privacy. He added that "Citizen-centric Services, growing on the websites of Central & State Government Departments/Organisations, needs sensitisation and access to these services by the consumers to be secured". Dr. H.P. Dikshit, Director General, SGPA, Sh. Gulshan Rai, Director General, STQC, Sh. Shekhar Dutta, Deputy National Security Advisor and Sh. Anurag Jain, Secretary to CM & Information Technology, Government of Madhya Pradesh also addressed during the inaugural session and emphasised on need for quality and security of websites and services.

Sh. Vinayak Rao, SIO, NIC MPSC, Bhopal was one of the key speakers during first Technical Session (Pre-Lunch) among the others. Sh. Rao briefed the major activities and services being extended by NIC to the State Government, besides clarifying responsibility of contents accuracy and maintenance, as the users organisations are the owner of the websites operational on NIC Servers. He also advised the State Government to make it mandatory to follow the "Guidelines for Indian Government Websites" and to conduct third party security audit by empanelled Security Auditors (available on CERT-in website) at a regular interval.

Second Technical Session (Post-Lunch) was especially organised for CIOs, ACIOs & Web-Masters. The key speakers during this session were Sh. Sanjay Hardikar, TD, Sh. Mayank Nagar, PSA, Sh. Rakesh Jain, SSA, Sh. R. Prasad Rao, SSE and Sh. Chandra Prakash, SA, covering more technical areas related to "Websites & Web-enabled Applications - Hosting & Security", "Network Security/Virus", "FTP over VPN Secured way for maintenance of Website & Web-enabled Application" & "Security Guidelines for Websites & Web-enabled Applications".

Sh. Anurag Jain, in his concluding remark, advised all the concerned to follow the guidelines for Website Quality, Web-application Security, E-mail Security, Desktop Security, etc. as per the recommendations. Sh. Vinayak Rao, assured Secretary (IT) to continue providing all the technical support not only in this process but also in e-Governance growth of the state.

Santosh Shukla, Madhya Pradesh

Dr Muralidharudu, Dr P Raghava Reddy, Dr M Velayutham, Dr A Subba Rao, Dr A K Singh

ICAR organised National Conference on Investigation on Soil Test Crop Response Correlation at ANGRAU, Hyderabad

Soil Testing is one of the most important services provided by Soil Testing Laboratories set up by State Governments, Research Institutions, and private service providers. NIC, Pune has developed 'Farmer Centric e-governance Application Software' under title 'In Service of the Farmers' to issue Soil Health Card and Fertilizer Recommendations to the farmers.

The computerised system would act as National monitoring system to study emerging nutrient deficiencies and excesses in the various agro-ecological cropping and management systems adopted throughout India.

Sh. Girish M Phegade, PSA has made a presentation on 'Soil Health Card Package' developed by NIC, Pune. The software facilitates Soil Testing Analysis and Issue of Soil Health Card along with fertilizer recommendations. A presentation was also made for online fertilizer recommendations based on 'Soil Test Crop Response (STCR) and Targeted Yield Concept'

Punam Gupta, Maharashtra

Three Day Workshop on e-Granthalaya and NewsNIC Software for Automation and Networking of Libraries organised by YASHADA in association with National Informatics Centre, Pune

Participants in the workshop

Three days "Workshop on e-Granthalaya and NewsNIC Software for Automation and Networking of Libraries" was conducted during May 25-27, 2009 at Yashwantrao Chavan Academy of Development Administration (YASHADA), Pune in association with National Informatics Centre, Pune.

The workshop was conducted for the benefits of the libraries from Pune region which are using e-Granthalaya software for automation and Networking. The e-Granthalaya workshop attended by 23 number of library officers from various organisations/ libraries. To name a few are: Sahyadri Hospitals Private Limited, SPM School, Maharashtra State Agriculture Marketing Board, Dr B N College of Architecture for Women, Abhinav Education Society Institute of Management & Research, Huzurpaga Mahila Vanijya Mahavidyalaya, Sh. Mamasaheb Deshpande Sarvajanik Granthalaya, Centre for Police Research, AISSMS Institute of Management etc.

The Workshop was inaugurated by Smt. Pratibha Joag, DDG, NIC, Pune while the Key Note Address was delivered by Dr. Nidhi Pande, IAS and DDG, YASHADA. Sh. S Ponikar, Library Officer, C-DAC, Pune welcomed the participants while Sh. S D Shirdade, Technical Director, NIC, Pune delivered vote of thanks. The Workshop was coordinated by Sh. Manoj Kulkarni, Library Officer, YASHADA and Sh. Sanjay G Kulkarni, PSA, NIC, Pune. Sh. Ram Kumar Matoria, Technical Director, NIC, New Delhi participated as faculty. The participants were given exhaustive training/ hands-on for use of various modules of the e-Granthalaya Software.

The Long Revolution: The Birth and Growth of India's IT Industry

This book on India's IT industry is a very good attempt considering its usefulness for journalists, academics, analysts, consultants and policy makers. Dinesh C. Sharma has attempted to write the IT story from the origins to the present. There are very few books available in this area of study and to count few similar books are: (i) India and the Computers, (ii) Perspective on Electronics in India, (iii) Electronics in India and (iv) Computerization in Government, etc. But all these books are written before 1990. The Long Revolution is the latest sketch on the development of IT industry in India.

Title: *The Long Revolution* - The Birth And Growth Of India's IT Industry (2009)

Author: *Dinesh C. Sharma*

Publisher: *Harper Collins*

P.K. Upadhyay
Technical Director
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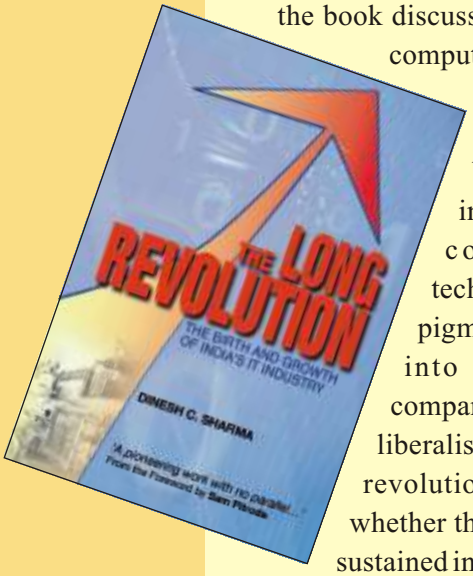
The Long Revolution is a comprehensive catalogue of the country's struggles, gradual discovery and eventual emergence as a global IT giant. Sharma's narrative begins in the 1920s and '30s, P.C. Mahalanobis used predecessors of computing machines to analyse data from the National Sample Survey, and Bhabha for designing and running nuclear reactors are acknowledged.

The book has ten chapters including Chapter 3 on The Rise, Fall and Rise of IBM, Chapter 5 on Building Human Capital, and Chapter 8 on The Transition to Offshore.

The book focuses on the history and narrates the use of IT in India, and also the software, hardware, semiconductor and design industries. A detailed and meticulously researched account of the computing and information technology industry, the book discusses the genesis of computers in India; how the initial IBM monopoly was broken; how the innovative use of communication technologies turned pigmy software firms into billion dollar companies; the role of liberalisation in the IT revolution; and finally, whether this miracle can be sustained in the future.



The IT story is believed to have started after the liberalisation in 1991, when a progressive software policy was created. The book dives below the tip of the 1991 iceberg to emerge with a lot of relatively unknown data and interesting anecdotes. Some of these stories from the pre-1991 era are either not well known or are otherwise untold.

As Sharma's research on Indian IT journey notes that between the 1940s and the 1970s, India's emphasis on indigenous technology and self-reliance took entry as global IT giants, when IBM was setting up manufacturing units and selling computers. He states the role of institutions such as the Tata Institute of Fundamental Research and the Indian Statistical Institute in promoting computing.

The book works well as a reference, especially for those who want to know the facts, turning points and cull interesting anecdotes from the early days of Indian IT. Key policy decisions are highlighted. The role of the state in pushing the IT agenda further, such as the 1984 computer policy and then the 1990s when the software technology parks were set up.

However some more coverage could have been given on the clustering of IT industry in a few cities such as Bangalore, Chennai and Hyderabad. More focus is required as on how Bangalore edged out Mumbai in becoming India's Silicon Valley, and also the role of state governments.