http://informatics.nic.in

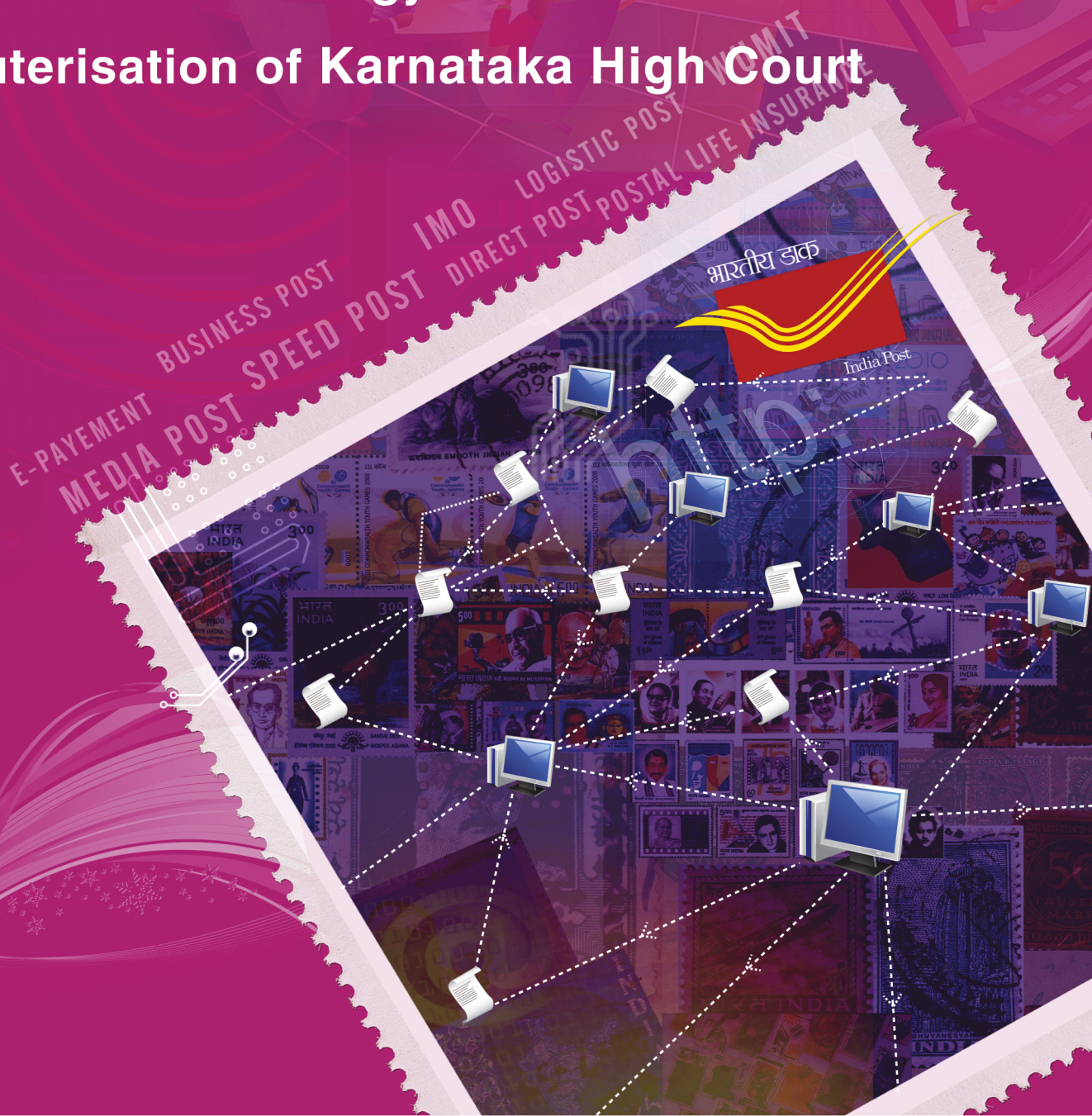
VOL. 18 No.2 October 2009

ISSN 0971-3409

# Informatics

AN e GOVERNANCE PUBLICATION FROM NATIONAL INFORMATICS CENTRE

- ICT Initiatives in Postal Sector
- Madhya Pradesh: Reaching the un-Reached through ICT
- SSL VPN: A Technology Overview
- Computerisation of Karnataka High Court



**Informatics**
Volume 18 No.2 | October 2009



**Informatics**
is Published by National Informatics Centre, Department of Information Technology, Ministry of Communications & Information Technology, Government of India

A-Block, CGO Complex,
Lodhi Road,
New Delhi-110 003



*Layout & Printed at*
Viba Press Pvt. Ltd, New Delhi
on behalf of NIC

# Editorial

*Postal service amidst telecommunication revolution still acts as a one-stop-shop for all postal requirements with its wide presence from metros to far off areas. Indian Postal services help people maximize every opportunity by backing them with reliable, on-time and value-for-money services incessantly. Inclusion of ICT initiatives has boosted quality and efficient postal services. Various ICT enabled programs have turned the complex mechanism of Postal service into more effective and customer centric. Read our Lead story to know more about this.*

*In the Guest Column, Sh. Sailesh Singh, Secretary IT, Government of Jharkhand, shares his experience and views in the implementation of major turn key ICT projects in the state of Jharkhand. We also carry an informative interview with Sh. Pradipta Kumar Mohapatra, Secretary IT, Government of Orissa wherein he discusses the successful roll out of e-Procurement system as well as various initiatives taken by the State Govt. to promote the growth of e-Governance in the region.*

*Karnataka using Open Source Digital Repository Software for storing and retrieving High Court judgments, Rainfall Monitoring System, a transformation from manual to online system in Orissa, and CPIS enhancing administrative functions in Manipur are the highlights of our Products & Services Section. Software Engineering as a catalyzing factor for successful government project implementation is also discussed in Perspective section this time.*

*In the 'From the States/UTs section', we have covered the ICT initiatives in the State of Madhya Pradesh and Orissa. ICT initiatives in Hamir Pur District of Himachal Pradesh, Upper Siang District of Arunachal Pradesh, and Palamu District of Jharkhand have also been talked about in 'District Informatics'.*

*All our regular sections viz., Technology Update, National Portal Update, International e-Gov Updates, Cyber Governance, In the News, and Views etc. are there to serve your need to know what's happening in the e-Gov domain around us.*

*Enjoy Reading…*

***Neeta Verma***

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

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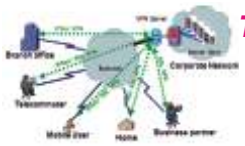





# Postal Sector: ICT Initiatives at Forefront

*The post office in India has evolved over the decades; it has come a long way from physical transmission of human emotions to electronic mails. The long wait for the friendly postman to deliver Money order has taken a new avatar of Instant Money Order. India Post had to redesign its services and introduce various premium services in the wake of Telecommunication revolution. In the midst of this transformation; the post office is still one of the most trusted names across the country with vast potentials largely untapped and unexplored.*

***Dr. Shefali Dash***
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The Department of Posts has 845 Head Post Offices and 25,320 Departmental Sub Post Offices while the remaining Post Offices are located in rural areas working for few hours. The VIIIth and IXth plans saw computerization of 506 Head Post Offices and 1266 Sub Post Offices. The software package, Meghdoot, developed by Postal Training Centre (PTC), Mysore enabled computerization of most of the operations in the Post Offices. Sanchay Post; another software, computerized the savings bank operations in the Post Offices. Subsequently, E-enabled services such as e-Post (electronic Post), iMO (instant Money Order) and e-bill Post also launched. Software packages have also been developed for computerizing Postal Life Insurance (PLI), Speed Post and other premium services and operations in administrative and account offices. These applications were running from severs hosted at Post Offices or at National Informatics Center, which made monitoring of different applications an enormous task. Further, these computerized post offices were isolated entities with one or two clients connected to dedicated servers of web based services like iMO, ePost, etc. through dial up connections and therefore could not provide full fledged network-driven services to customers.

During the Xth Plan, the Department of Posts has computerized all its Head Post Offices and most of the major Sub Post Offices and planned to create a virtual private network linking these offices. An expert committee was set up to deliberate on the issues related to establishment of National Data Centre, which suggested that in view of the intricacies involved in the setting up and maintenance of a data center on a 24X7 basis, the services of National Informatics Center (NIC) may be availed.

## Initiatives Undertaken by National Informatics Centre

Communication Information Systems Division (CISD) of NIC at Department of Posts, Dak Bhawan has been entrusted to provide consultancy and guidance for consolidation of existing IT initiatives to harvest maximum benefits. CISD suggests modalities for implementation of new applications to meet the challenges and competition posed by the private sector. Credit goes to CISD for support during implementation of many IT enabled postal operations like ePost, iMO, etc. National Informatics Centre has been instrumental for establishing necessary postal network and inevitable infrastructure to provide improved e-services.

## National Data Centre (NDC) and Wide Area Network (WAN) for the DoP

For improved ICT infrastructure, NIC planned for a Data Centre at NIC, Delhi, Disaster Recovery Centre (DRC) at NIC, Hyderabad

and a WAN to connect 1318 post offices in a Closed User Group (CUG) with 2Mbps lease line circuits. Provision has been made for broadband/ ISDN connections to act as fall back option in case of lease line circuit failure. Schematic diagrams of the NDC and WAN are shown in **figures 1** and **2** respectively.

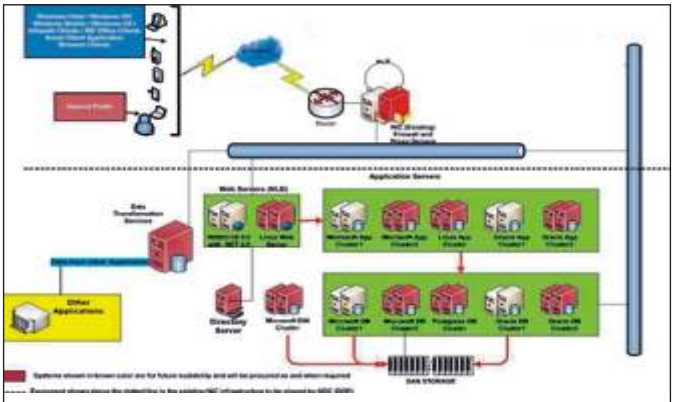

***Fig.1-*** *DoP National Data Centre Architecture*

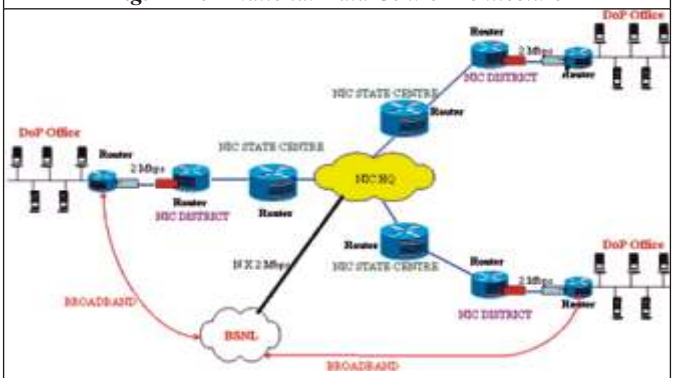


***Fig. 2:*** *DoP Network Architecture with 2Mbps leased line and Broadband as backup*

## Innovative Applications of the Department of Post

**Electronic Mail (ePost):** ePost is a printed or even handwritten message of customers, scanned and transmitted as email through internet at *http://www.indiapost.nic.in*. At the destination offices, these messages are printed, enveloped and delivered through postmen like other letters. ePost centres, equipped with internet connection, computers, printers and other necessary equipments have been set up in the Post Offices, covering all the districts and major towns in the country.


*Homepage for ePost*

However, ePost service can also be availed of from any Post Office. Irrespective of whether a customer is in a metropolis or in a remote village, s/he can send and receive ePost messages. The messages booked at Post Offices which are not the ePost centres, are sent to the nearest ePost centres for scanning and dispatch. Similarly, messages received at ePost centres for areas beyond their delivery jurisdiction are printed and sent to concerned Post Offices for delivery. One can buy prepaid cards from Post offices to send ePost from home also.

**Instant Money Order (iMO):** The iMO service enables instant money transfer between sender and recipient residing in India through the post offices. A customer can send up to Rs. 50,000/- by depositing the cash in any of the iMO centres, collect a 16 digit iMO number and inform this number to the recipient. The recipient can collect the money from any iMO centre by presenting the iMO number and a photo identity proof. In this web based service *https://www.indiapostimo.gov.in/rvw*, money transaction happens instantly.

**Project Arrow (Post Offices: A window to the world for Aam Aadmi):** Due to the large reach of the post offices, specially in the remote and rural areas, it was felt that the Post offices should be enabled to open new vistas to the common man to connect him to the out side world and be the harbinger of kaleidoscopic changes in the lives of the common man. With this objective, the Project Arrow was launched, initially covering 50 post offices across the country and subsequently extended to 500 post offices. Now, in the third phase of the project, it is being planned to extend to another 5000 post offices.

To monitor the activities, performances and the service delivery on a daily basis, a web based system has been developed through which each Arrow post office enters data on the number of mails/ money orders received every day and the number of deliveries performed on the same day. Data from the post offices on their daily

transactions are extracted using a Data Extraction Tool (DET) in an automated process. Key Performance Indicators (KPIs) are calculated on the basis of data entered on the website and data extracted using DET. These KPIs are monitored regularly to take proactive decisions to improve the performance of a post office.

**Postal Life Insurance (PLI):** PLI was started in 1884 as a welfare measure for the employees of Posts & Telegraphs Department which subsequently was extended to cover other government employees. On 24th March, 1995, the benefits of Postal Life Insurance were extended to rural populace of the country under the banner of Rural Postal Life Insurance (RPLI).

Computerisation of PLI/ RPLI started way back in 1995 using UNIX systems with dumb terminals at the 23 postal circles. Though this system was working fairly well, it was necessary to revamp it to compete with the private insurance players who flooded the customers with varieties of facilities and options. As a result, an upgraded web based system *http://indiapostpli.gov.in* came into existence.

*Screenshot of PLI/RPLI*

**Consumer Price Index (Rural):** Department of Posts has been entrusted by Central Statistics Organization (CSO) with the collection of Rural Retail Prices towards formulation of Consumer Price Index (Rural). CSO has selected around 500 commodities for collecting retail prices every month from 1183 villages covering all districts of the country. Each village has been linked to the nearest head / sub post office for data entry. Data is collected by postal field staff and entered through user friendly data entry screens on web enabled application for verification by the Supervisor (post master).

This application has been designed with role based access control for operator, supervisor, DoP HQ and CSO. Each role has been assigned with pre defined access and privileges depending on requirements.

An exhaustive MIS reporting system has been designed to provide information to various stake holders as per their requirements.

**NREGA Postal Accounting System:** The ICT based Mobile payment system for NREGA workers were undertaken in 25 Branch Post offices in Orissa on a pilot basis. In this, Identity cards as well as e-passbooks in the form of smart cards were issued to the NREGA workers at the time of opening of accounts. These cards were personalized with the photograph of the worker and other account details and have a provision for carrying biometric imprints. The NREGA account holder presents his smart card to the Branch Post Master (BPM) at the time of transaction, which is read through the NFC reader, and after proper verification and authentication, the BPM performs the transaction through the mobile phone. Payment of the desired amount is made after checking the balance amount in the account of worker with the Central Payment Server. Once the transaction is completed, the worker is given a printed slip with details of the transaction done. An offline software interface is also provided to the BPOs where GPRS signal is low. Role based MIS reports can be generated in the system.

Many more applications, such as RTI through which RTI application/ appeal addressed to any central government department can be accepted at the post offices which would then be transmitted to the nodal officer of the concerned department, CPACT for Circle level postal Accounting System, Patram for Postal Account Transaction Maintenance, Freighter Mail Movement Tracker, Mail Monitoring system, Postal Account Current System, Web based Pension Management System, etc. have been implemented in the Department of Posts to streamline the work flow and improve the service delivery. These systems have been deployed by the CISD in collaboration with Pers Infotech Division and some of the NIC State Units, namely, Tamilnadu, Karnataka and Gujarat.

## Future Plans

Besides the services which are currently being offered by the Department of Posts, many new proposals are under way to improve the postal services. Some of the proposed major projects are:

**National Address Database Management System for India Post:** The Department of Posts is focusing on creation of a National Address Database Management System for India Post wherein the information related to every delivery point of postal services for both residential as well as commercial/industrial locations in urban and rural areas would be captured along with the maintenance of the standard database. A letter is handled in the Postal system on the basis of address thereon. Unambiguous address is essential for effective and economical mail sorting operations. Adoption of a standard gives it stability, continuity and greater uniformity over the geographical jurisdiction and for long time to come.

Further, it improves the quality of mail delivery, enables it to be machine processed and reduces costs. An address has two basic attributes; viz. one that describes the personal identification details; and the other that describes location identification details. The main objective of Postal Geographic Information System is to create/integrate, maintain and disseminate digital spatial database associated with the existing data of DoP. This may be initiated with providing a base map of the order of 1:1000 scales, which may sufficiently provide a view of the catchment area of the Post Offices and further demarcation of "Beat Catchment" with support from DoP. This may be integrated further with addresses, Pin Codes as found suitable within the project.

**Virtual Post Office:** It is proposed to develop a portal for Virtual Post Office to provide postal services to the customers on 24X7 basis. The services to be rendered through the virtual post office are:

- ***Mail services:*** registration, parcels, insurance, value payable posts, surface air lifting, free posts, and services associated with traditional postal communication.
- ***Financial services:*** banking, postal life insurance, money order, instant money order, international money transfer, mutual funds, electronic clearance services, and electronic international money order services.
- ***Premium services:*** speed post, business post, bill mail, electronic intimation of delivery, national bill mail, e-payment, express parcel, media post, greeting post, logistic post, direct post, and retail post.
- ***Philatelic services:*** information regarding stamps issued by the DoP over the years. Philatelic Deposit Accounts opening online by making payment through the payment gateway set up by DoP.
- ***Customer services:*** enabling customers to provide feedback, and grievance redressal system for maximum customer satisfaction.

## Awards and Accolades

*ICT intervention for improved postal services has brought many awards & recognitions for the Department of Posts. Some of these are:*

- Skoch Challenger Award for instant Money Order in 2007
- Manthan award for Instant Money Order in 2007
- Oracle e-governance excellence award for Postal Life Insurance Computerisation in 2006
- Microsoft e-Governance Award for instant Money Order in 2006 *i*


*Microsoft e-Governance Award for iMO*

# "We can leverage the expertise of NIC / NICSI in implementing turn key ICT projects" .....

***An Exclusive Interview with Sh. Sailesh Kumar Singh, IAS & IT Secretary, Govt of Jharkhand.***

**How would you describe the significant role played by the Department of Information Technology (DIT) in the overall progress of the IT sector in Jharkhand?**

**SKS.** The Department of Information Technology, Jharkhand was formed nearly five years ago. During these years we have implemented large number of ICT projects in sectors like Finance (Treasury & GPF), Transport, Jails, Commercial Tax, Registration, Municipal Corporation, Land Records etc. Moreover Jharkhand was among the first in the country to set up SWAN (Jhar-Net). Video Conferencing & IP Telephony facility over Jhar-Net has been successful with high utilization. We have also set up a Data centre at Ranchi where most of the applications are hosted. At present we are working towards strengthening our Data Centre for better management of e-governance projects to provide efficient and timely service. We have also established Jharkhand Space Application Centre (JSAC) to leverage technology in the area of Space Application for the benefit of the people. The state is blessed with abundant natural resources hence the importance of space application technology assumes greater significance.

**Sh. Sailesh Kumar Singh**
*IAS, IT Secretary*
*Govt. of Jharkhand.*

**How does the DIT foresee the future of Jharkhand and what role does it expect from NIC in the next decade. ?**

**SKS.** The future of IT in Jharkhand is bright as well as challenging. The government has established an agency Jharkhand Agency for Promotion of IT (JAPIT) to technically manage various IT projects in the state. Though there are many hurdles but I am hopeful we will overcome them in due course of time. NIC is our partner in most of the projects, which I have mentioned earlier. I personally feel that NIC will play a major role in the coming decade in the state. They have got a very dedicated team of professionals and we see towards them with great expectations to meet the future challenges.

**What is your vision for the IT sector as a whole in the State in the times to come ? What significance do you attach to the role played by the IT industry in a potential partnership with the government towards the fulfilment of this vision?**

**SKS.** I foresee Jharkhand becoming a major IT hub in the near future. The state is blessed with abundant natural resources and the climate is also conducive for the growth of IT. The people of the state are friendly intelligent and hardworking. The industry has to come forward to establish units for production of various ICT equipments. The government will provide all the necessary support to them in this regard. The state government has also established a Software Technology Park (STP) at Namkum near Ranchi. The industry can take benefit from the facilities provided at the STP. This will also generate jobs for the youths of the state. We do need few more good technical institutes to train our youths. This will help us to meet the shortage of IT professionals in the state.

**Has there been any initiative taken by the government to welcome IT Companies in Jharkhand? What are the possibilities of employment in this sector?**

**SKS.** We some excellent IT companies with all India presence which are working with us in the state. I expect more will become inclined to

work in Jharkhand as we move towards our goal of e-governance in every major sector. The state government will be happy to work with the industry in this crucial sector for the benefit of the people. It will obviously lead to more employment opportunities in the state.

**i One of the most important initiatives with respect to e-Governance in the country is the National e-Governance Plan (NeGP). Is the Plan in line with the expectations? What would you say about the overall performance and progress of the Plan?**

**SKS.** The National e-governance Plan was formulated to promote e-governance on a massive scale for the benefit of the common man. The goal of NeGP is to make all government services accessible to the common man locally or through CSC's in a transparent, reliable and affordable manner. We have taken NeGP very seriously and are working towards its success. I believe that the plan is in line with our expectations. We are working to achieve the stated goal. It is our determination to achieve them with greater benefits to the masses.

**i The DIT has successfully set up Jhar-Net (SWAN) in the state while has taken initiative for strengthening State Data Centre. What role do you see for NIC in this initiative?**

**SKS.** Jhar-Net is one of our major achievements and as various government services rolls out over it, I hope it will become a household word in the days to come. As I said earlier that we consult NIC during every major project and their suggestions are highly regarded. NIC itself has vast experience in Network and Data Centre Management. Being a national level organisation NIC does help us to implement our ICT projects in a much better and strategically cohesive manner. The reach of NICNET is up to the district level and we wish to integrate SWAN with NICNET to create a strategic synergy between them.

**i The state has gone for VC set up between all the Courts and Jails through NIC. What is your overall perception and experience of implementing projects with NIC on a turnkey basis?**

**SKS.** NIC has a vast pool of software resources both at the national as well as the state level. The VC between court and Jail has been implemented on a turn key basis by NIC /NICSI. Under trials are produced before the court from the jail campus itself. This takes care of security threats in case of dreaded criminals and also saves time which has ultimately improved the disposal of cases. We have also implemented software projects developed at the state level like Treasury, Commercial Tax, Land Records etc. More over NIC / NICSI, has implemented some turn key projects in the state like GPF etc. We can leverage the expertise of NIC / NICSI in implementing turn key ICT projects.

**i NIC has designed & developed public utility software like e-Nagrik Seva & Samvad for roll out through CSCs in the state. What role do you foresee for CSCs in the state and their usefulness & impact on the public?**

**SKS.** We have established CSC's at many locations in the state, which has provided greater push to e-governance. Most of the CSC's are functioning, though I feel much needs to be done and there is scope for improvement, especially those established in the far flung rural areas. e-Nagrik Seva and Samvad are public utility software developed by NIC, Jharkhand. It has been implemented at many locations in the state through CSC's and I feel it has the potential to really bring ICT at the doorstep of the masses.

**i You have some good private companies implementing projects in the state. NIC has also implemented or in some cases are in the process of implementing some major projects in the sector like Commercial Tax(VAT), Treasury, GPF, Transport, Drinking Water & Sanitation, Employment Exchange etc. What is your opinion about NIC and its overall contribution in the state?**

**SKS.** NIC has contributed immensely to the state in the field of Information Technology. NICNET has also been strengthened with dedicated 2 Mbps LL connectivity to every district of the state from NIC Data Centre located at Nepal House, Ranchi. The NIC district centres provide support to the district administration on a day to day basis. The support given by district centres especially in monitoring of NREGA, Treasury, Transport and recently concluded Lok Sabha election etc. are excellent. The performance of most of the private companies engaged in project implementation in the state has also been quite encouraging.

***Interviewed by:*** **Prashant Belwariar**

# Judgment Information System for High Court of Karnataka using open source digital repository software DSPACE

*Judgments passed in the High Court of Karnataka are a rich source of information for many stakeholders. There was a strong need for making this treasure accessible freely and effortlessly. And the answer was DSPACE, an open source software customized for repository of Karnataka High Court Judgments. This is the first initiative in India to use open source tools for handling electronic judgments.*

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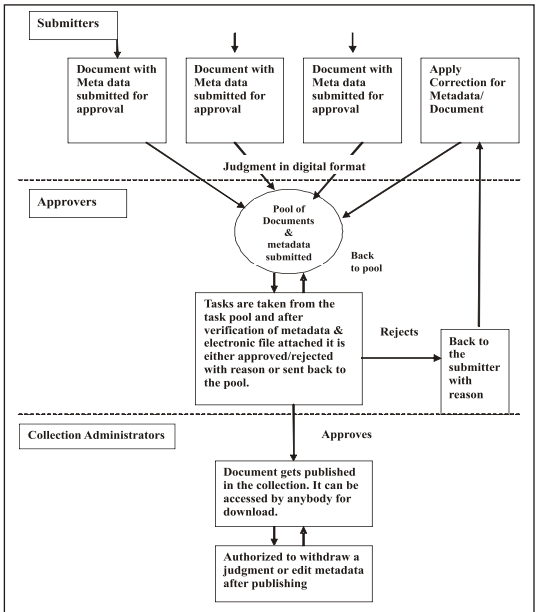
Digital Collection of High Court Judgments is a web-based solution, *http://karnatakajudiciary.kar.nic.in* for storing and retrieving judgments in digital form. After a judgment is released, the stakeholders like petitioners, respondents, general public, advocates, other judges, courts etc would like to have early access to the judgment. Therefore the judgment in the electronic form needs to be made available as soon as it is released. Secondly a powerful search to help the stake holders to get the required information is the need for starting this initiative.

In case of High Court of Karnataka, court cases details like case number, case year, type, judge name, petitioner, date of judgment etc is already available in the court information system which is being as metadata for the respective judgments. However section and subject were not been updated for old judgments, hence provision was made to update the same.

Technology used is, Open source digital repository software Dspace, Tomcat Java container, Oracle 10g database server, Windows 2003 server. Further District courts also can be added as sub communities and judgments can be added to the respective collections. It is workflow-based judgments publishing system. Here submitter, approver, collection administrator or DSPACE administrator are part of the workflow.

## Salient Features

- Metadata is fetched from the Court information system and hence, there is lot of timesaving as far as the Meta data entry is concerned.
- DSPACE supports almost all types of file formats hence; it is easy to recognize file formats.
- As the solution is web based,




*Functionality diagram of Digital Collection of High Court Judgments*

Communities and collections

High Court (Community)
→ Case Type (Collection)
→ Judgments (Items)

multiple numbers of submitters and approvers are possible.

- Search based on case number, case type, subject, judgment date, judge name, petitioner name, respondent name are available.
- Advanced search can be used to search by any term to get desired results.

## Submitter

Submitter has been assigned the work of submitting the documents to the task pool. He is the starting node in the workflow. There can be more than one submitter in the workflow. He logs in to the system using his user id and password. There are 65 types of collections under "High Court of Karnataka community". The submitter needs to select the case type from the collection list, based on the case number and year; the system will fetch desired data from the court case information system. There is a provision to enter section and subject for the judgment. Judgment is scanned and stored in PDF format with watermark on every page. Water mark is basically to indicate that the electronic judgment is only for the reference purpose and not for any official use. This file is uploaded using the upload option in the system.

Once the file is uploaded by the submitter, it is listed in the task pool to be viewed by the Approvers.

## Approver

After submitter, approver is the next person in the workflow who has been assigned the job of verifying the metadata and the judgment files attached.

All the documents submitted by submitters are verified by at least one approver. There can be number of approvers who are assigned to verify the submissions. In the workflow of digital judgments, approvers are the domain experts who verifies the documents submitted against the metadata and they either approve the document or reject the same with appropriate reason. After approver approves the document, it gets published in the collection and is available in the repository for search and download for anybody who has access to the repository. In case of any discrepancies, he can edit the same and approve, or reject the same with a message.

After approval of the approver, a handle is created for each of the approval and this is the unique id for the document submitted. Hence a note of the above mentioned handle is very important. This helps for further editing/correction etc.

Once a document is published in the repository, collection administrator or DSPACE administrator only can edit it.

## Collection Administrator

He is the administrator for all the 65 collections coming under High Court Karnataka.

In case of editing of Meta data or withdrawing the documents, which are already published in the repository, he can do the needful using withdraw option. The item withdrawn is not deleted but removed from public view.

## Accessing the repository

**Browse:** One can reach the required judgment by browsing through the repository based on Case Type, Case Number, Judge Name, Subject and Date of Judgment which appears in ordered list.

**Search:** Other way of reaching to the judgment is through advanced search option where one can search based on judge name, case number, petitioner name, respondent name, section, subject, concerned case number or previous disposal dates.

To avoid erratic outcome while browsing / searching, Search and Browse indices have to be indexed regularly.

**Tuning:** As the size of the repository increases certain tuning requirements arise. The Heap size of Tomcat Server has to be set to certain adequate value. The Oracle database server parameters like System Global Area, Number of open cursors have to be set for appropriate values. The Tuning requirement may also depend on the no. of concurrent users involved in the workflow.

***For further contribution, contact***

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***Edited by:*** **R. Gayatri**

# Rainfall Monitoring System: Counting Rain Drops

*Rainfall data plays an important roll of indicator for monitoring crop situation in a drought / flood year and Prediction. Prediction of a drought like situation and early warning required to be issued to farmers / public as early as possible to face a natural calamity. Analysis of rainfall is also required for long term agricultural planning. This needs a comprehensive database of the Rainfall with timely collection from the Rain recording stations and various analysis.*

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Much of the information about the rainfall climatology of India is based on monthly, seasonal and annual rainfall data, which are derived from daily rainfall recorded at individual stations. It is of interest and importance to study the climatological aspects of the daily rainfall distribution over the country, which has a wide variety of rainfall regimes. Such information is of relevance for the efficient management of Water Resources System, Agricultural operations etc. as well as for a better understanding of the processes producing rainfall.

Present prevalent methods of monitoring such information utilize manual observation and recording of data, which is highly error-prone.

## Conventional Method

- Collection of Daily Rainfall Data from Rain recording stations geographically located in every CD Block through Telephone/ VHF
- Compilation at District Emergency Control Room
- Transmission to State Head HQ through Telephone/Fax/ Email

## Problems

- VHF facility is not accessible directly from District Emergency Control Room to all the Blocks
- Takes 3 to 4 hours everyday for Collection / Compilation and Transmission of Data from all the stations at District Emergency Control Room
- It Takes further time for Data Analysis i.e Daily, Weekly and Monthly Deviation Reports through manual calculation which needs valuable man hours
- Frequent Data Manipulation at different levels is not ruled out.

**"Counting Rain Drops" -** the Rainfall Monitoring System is an effort to transform the existing manual system to a technology based online system. This web-enabled solution facilitates Rainfall stations to enter data on the system, which in turn gets compiled, and analyzed time-wise and location-wise. The application generates various Reports and Graphs RR / District wise. The data may thus be made readily available to any interested department / organization via the Internet.

This monitoring method can not only increase the reliability, but also improve the timely availability of data, and hence contribute

*Sh. Debesh Das, IT minister of West Bengal and Chief guest at Dataquest E-Gov Summit handing over the Trophy to CVK Maruti Rao, DIO, NIC, Balangir*

significantly to the betterment of different sectors in day-to-day activities as well as for long-term planning.

*To add to its credit & achievement, the application has bagged the Data Quest e-Governance Champion, Special Jury Award in 2008.*

## Utilization of existing Infrastructure

With the existing network infrastructure at Block & District level the web based software has been conceived and hosted as *http://rainfall.ori.nic.in* On successful implementation of this System in Balangir District, Orissa in the year 2005, the project has been implemented across all districts of Orissa with following Long term & short term objectives.


*Homepage of Orissa Rainfall Monitoring System*

## Long Term Objective

- To strengthen the timely Data collection and transmission procedure
- To create comprehensive database of Rainfall
- To have a proper computerized monitoring system
- Planning and decision making for Implementation of Agri-Based Programme by Agriculture Department, Watershed Development, NGOs.

## Short Term Objective

- To plan for quick mitigation measures for an eventual Drought like situation
- To help in analysis of Crop condition and Weather situation for early warning to farmers

## Salient Features

- Generation of various Reports for in-depth analysis and better management at Rainfall recording Station, District & State level on Daily, Weekly, Monthly basis.
- Generation of reports of Deviation from Normal and Meteorological drought class (Severe, Moderate, Mild, Normal) and Rainfall Pattern (Excess, Normal, Deficient, Scanty, No Rain).
- Rain intensity Indicator Report using Colour codes to indicate alarming status i.e. No Rain, Very Light Rain, Light Rain, Moderate Rain, Rather Heavy Rain, Heavy Rain, Very Heavy Rain.
- Facility to Collect Temperature data.
- Generation of Negative and Normal Bar Graphs for Graphical Analysis.
- Reminder email for Data Entry from District Administration account to defaulter Rainfall Recording (RR) Station, if any.
- Data Log to keep track of changes in the updation of Rain Data, so that manipulation of data could be traced out.
- RR stations which are not monitored by the SRC Office but existing in the district can be kept as Optional Stations for recording in the application.
- Reports downloadable in Excel format for easy analysis at user level.

## Impact Analysis

- As the existing Network infrastructure is being used, the investment is negligible and the return is in multiples of investment in terms of saving man-hours and Communication Cost.
- Ease in Monitoring of Rainfall at RR Station wise, District and State.
- Comprehensive Database of Rainfall of Orissa.
- Reduced the time and cost of communication.
- Reduced man-hours in collection and compilation of data.
- Web application helped in Data sharing to Govt. Organizations, NGO's and Citizens as & when required.

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***Edited by:*** **R. Gayatri**

# CPIS : A Personnel Information System

*CPIS (Computerization of Personnel Information System) in Manipur is a unique system designed to regulate the administration by carving out a structured database for Government Employees and Sanctioned Posts. The system gives details of the forms used in updating employee details as well as office details. It also provides status of updates every month. It has proved to be a milestone in the workflow of the administration.*

***Budhimala Moirangthem***
*Technical Director*
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Manipur, largely a hilly State, where there is a need to post adequate employees in the hill and rural areas in order to ensure effective administration. However, over the years, a large number of employees were shifted / transferred from hill and rural areas along with their posts to the urban and soft areas, thus severely affecting the delivery of public service by the offices / institutions located in the hilly and remote areas.


*His Excellency, the Vice-President of India Dr. Mohammad Hamid Ansari & Cabinet Secretary of India with Smt M.Budhimala Devi, Technical Director and Smt O. Shaliza Chanu, Scientific Officer of NIC Manipur*

Further, with the introduction of FR & BM Act, 2005 and under Rule 6 of the FR & BM Rules, 2006 the list of Government employees was a mandatory requirement at the beginning of every financial year during presentation of the budget.

National Informatics Centre (NIC), Manipur State Centre was assigned to develop a computerized application, which would help state administration overcome the difficulties stated above. NIC Manipur designed & developed CPIS (Computerisation of Personnel Information System) to meet the challenge.

## Objectives: The project seeks to -

- provide accurate details of the staffing pattern of the employees including the sanctioned post in each Government Department.
- capture detail information of each employee appointed against a sanctioned post,
- update employee data on promotion, transfer, retirement of employees etc.
- check irregular appointments,
- facilitate policy decision on deployment, redeployment and transfer of employees.
- improve delivery of public services in hill and rural areas,

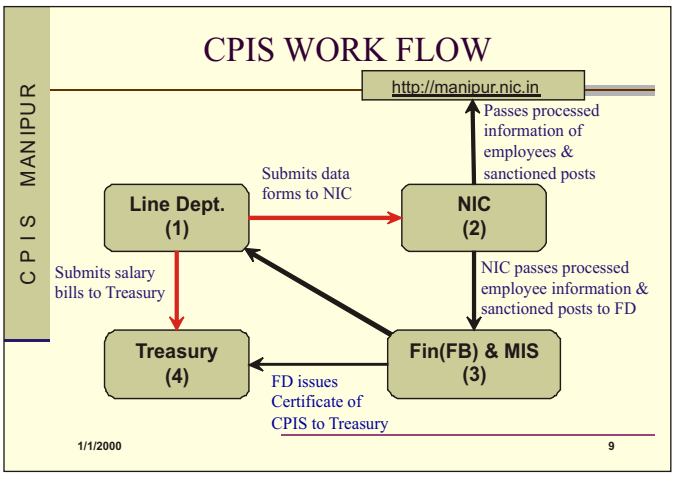
**Award :** ***CPIS was honored with the 'Prime Minister's Award for Excellence in Public Administration' - 2007-08, held on the 21st April 2009 The Civil Service Day, at Vigyan Bhavan, New Delhi.***

*Diagram showing the benefits derived from the System*

- estimate budget for salaries, grant of DA etc.

## Project Highlights:

- The Project is monitored under the overall guidance of the Chief Secretary, Govt. of Manipur.
- Nodal officers have been appointed in each Department in order to ensure that the information is received in the prescribed formats under their signature and seal.
- Manipur Public Servants' Personal Liability (MPSPL) Act 2006 is enforced in order to ensure that Nodal Officers cannot manipulate or enter vague data.
- Updation in CPIS database is monitored continuously.
- Information processed through CPIS s/w is certified by the Finance Department.
- Notices and orders are issued to Treasuries to stop payment of transferred/new/promoted employees unless the CPIS is updated and the data verified.
- Employees Identification Number (EIN) is made compulsory for getting GPF withdrawal, issuing Last Pay Certificate (LPC) and opening Salary A/C.
- Storing information on monthly basis on NIC Server even though the information is processed on daily basis to ensure security of data and facilitate its effective management




## The CPIS software has been implemented under two different setup:

- **Desktop Application:** The different modules available under this application are enrolment for new recruits, transfer and posting, promotion, termination, sanctioned post etc. The details are accepted from the line departments through 13 prescribed formats which are published at *http://manipur.nic.in*
- **Stakeholders - Roles and Responsibilty:** It has 5 levels of users with different permission granted for security measures. They are Super User, Administrator, Data Manager, Operator1, and Operator2. Permissions are granted according to the level of the users and the sensitivity of the information they are handing which are as follows.

| User Level | Activities |
|---|---|
| Super User | a) Create New Users<br>b) View Reports of employees and Sanctioned Post details for all departments |
| Administrator | a) Set Permissions to users created by SU<br>b) Master Data updation (Office, Designation etc.)<br>c) Verification of New Sanctioned post updated by Data Manager<br>d) Correction, Reallocation & Abolish of SP |
| Data Manager | a) Entry of new sanction post details<br>b) Verification of employee details updated for transfer, promotion, termination etc processed by Operator 1<br>c) Assigning of EIN to New Recruits & Left Out<br>d) Database Back up |
| Operator 1 | a) Printing of Fact Sheets for New Recruits & Left Out employees<br>b) Maintaining Fact sheets numbers<br>c) Updation of Employee details<br>d) Re-updation of Employee details rejected by DM |
| Operator 2 | a) Data Entry for New Recruits & Left out Employees & generate New Recruits (NR) number<br>b) Correction before preparing Fact Sheets if required<br>c) Printing of all Reports |

## Web Based Application

The application is hosted at NIC Manipur Web Server and can be browsed at *http://webmani.nic.in/cpis/index.aspx*. The portal provides information about CPIS and instructions on how to submit and update information using the standard formats regarding employees details, Sanctioned post etc. These formats are made available in the portal itself. Govt. notification, circulars and gazette notification related to CPIS are also published on the portal from time to time.


*Home page of webmani.nic.in/cpis/index.aspx*

The database updated by the application software is published on the CPIS web site *http://manipur.nic.in* to deliver various information in the form of reports for different categories of users. They are of two types as given below.

## Public Domain Reports

I. View Profile of an employee by Supplying EIN (Employee Identification Number)

II. Department wise updated list

III. List of Employees rejected by CPIS

**Secured Domain Reports (for Authenticated Users only):** For browsing the reports, users are required to login using their own user id and password. On being logged in, users are allowed to view the reports based on the permission granted to them as follows:

- **Nodal Officers of Line Department:** Category-wise number of Sanctioned Posts & Employees, no. of vacancies, no. of employees in access of S.P, Retired or expired employees and new recruits only for the respective department. A Nodal Officer cannot browse information of other departments.
- **Finance Budget:** Finance department is allowed to brows the reports for the entire department as they are the certifying authority of CPIS reports. CPIS reports are used for encashment of monthly salary of employees.
- **VIPs/VVIPs:** Information available under this category is for monitoring and administration purposes, hence reports are given at macro level only.

***CPIS, successfully implemented in Manipur, is an important & significant step in ushering e-Governance in G2G sector. CPIS has also become a driver in reforming governance in the state of Manipur.***

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***Edited by:*** **Prashant Belwariar**

# Upcoming ICT Events

**12th International Conference on Computer and Information Technology**
Dhaka, Bangladesh
*December 21st-23rd, 2009*
*http://www.iccitbd.net/*

**International Conference on Advances in Computing, Control, and Telecommunication Technologies, ACT 2009**
Trivandrum, Kerala, India
December 28th 29th, 2009
*http://www.icacctt.com/*

**International Conference on eGovernment and eGovernance**
Ankara, Turkey
March 11th-12th, 2010
*http://www.icegeg.info/*

**International Conference on Information Management and Evaluation**
University of Cape Town, South Africa
March 25th -26th, 2010
*http://academic-conferences.org/icime/icime2010/icime10-home.htm*

**17th International Conference on Telecommunications**
Doha, Qatar
April 4th-7th, 2010
*http://www.qu.edu.qa/ict2010/*

**12th International Conference on Computer System Design and Operation in the Railway and other Transit Systems**
Beijing, China
August 31st September 2nd, 2010
*http://www.wessex.ac.uk/10-conferences/comprail-2010.html*

**5th Ministerial eGovernment Meeting and Conference**
November 18th 20th , 2010
Malmo, Sweden
*http://www.egov2009.se/*

Incase you know of any such conferences, please write to us at:
*editor.info@nic.in*

# Madhya Pradesh: Reaching the un-Reached through ICT

*Madhya Pradesh, the second largest State of India having 50 districts & 313 Blocks, is home to a rich cultural heritage and has practically everything; innumerable monuments, large plateau, spectacular mountain ranges, meandering rivers and miles and miles of dense forests offering a unique and exciting panorama of wildlife in sylvan surroundings. ICT has a vital & challenging role to play in streamlining the Governance in the State. The State is fast emerging as a major destination for the IT industry with lot of activity on e-Governance in recent years.*

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NIC State Centre, Bhopal was setup in the year 1988, to play a catalytic role in promoting informatics culture and providing ICT services to Government Departments/ Organizations, besides architecting & implementing various e-Governance initiatives with the best possible technology support for achieving targeted goal of delivering efficient citizen services to the common public in the State. To succeed in this endeavor, NIC implemented State-wide network of District Centers and sub-offices. Currently, DICs are operational at 47 Districts, whereas Centres at the remaining Districts are likely to be operational soon. NIC has also created special Centers at various important locations, i.e., State Secretariat (Mantralaya), State Legislative Assembly (Vidhan Sabha), High Court & it's two Benches, Commissioner Land Records, Central Excise & Customs and Passport Office.

*SIO welcoming Hon'ble Chief Minister of the State during his visit to State Centre*

## ICT Infrastructure/Services

In order to achieve automation of Government processes & functions, appropriate backbone ICT infrastructure has been established in the State, which includes, Internet Backbone, OFC-based Inter-Building (Secretariat) Connectivity, dedicated Geomatics setup, Internet Data Centre (IDC), Integrated Network Operation Centre (i-NOC), Virtual Class Room (VCR) facility, etc., supported by a team of highly qualified IT professionals.

- **NICNET/Video Conferencing/ NICeMail -** 2 Mbps Leased Line based Network has been established within the State covering 50 NIC District Centres, 16 Circle Offices & 28 District Offices of Forest Department for availing NICNET/Internet & Video Conferencing facility, with 100 Mbps redundant Gateway. The connectivity has also been extended to Central/State Election Offices, Passport Office, Census, High Courts & Divisional Commissioners (Jabalpur, Indore & Gwalior), Rajya Shiksha Kendra, Land Records, 69 Post Offices, CAT Indore, National Judicial Academy, etc. Mail messaging services has been extended to approximate 20,000 users of various Government Departments/Organizations and Educational Institutes.
- **Data Centre & Web Hosting Services -** Data Centre with 18TB SAN Storage Capacity & 25 State-of-the-art Servers provide IDC services to many users with 24x7 operation support. The Web Hosting Services covers the maintenance of over 570 websites to facilitate a greater access to all interested netizens for promoting G2G/G2B/G2C/G2E interaction, which includes value addition for

**Excerpt of the letter from Hon'ble Chief Minister of Madhya Pradesh, Sh. Shivraj Singh Chouhan**

*We accord high priority to redress of public grievances with empathy and sensitivity. Samadhan Online was launched to achieve this objective. NIC support has made the programme effective.*

*Setting targets and goals is important, but achieving them is more crucial. Chief Minister Monitoring Programme has helped streamlining the process leading to timely compilation of important projects. Software Support of NIC provides at a glance analysis and graphical representation making monitoring effective & easy.*

Website Design & Development, Hosting, Registration of Domains, Maintenance of State specific contents on NPI, Uploading facility on Tenders INDIA Portal, etc. More than 165 Internet based Results of various Boards & Universities are being disseminated every year.

- **Gigabit LAN -** 3500 Nodes Gigabit OFC Backbone-based (Upgradeable to 10 G) structured & managed LAN has been established at State Secretariat (Mantralaya) to support various upcoming e-Governance Applications, Media Streaming, High Speed Data Transfer, Various Intranet/Internet Applications.

## ICT Initiatives/e-Governance Projects

- **Samadhan Online** *(www.mp.gov.in/samadhanonline)* is aimed at sensitizing the officials at all levels towards resolving the public grievances. It is conducted on First Tuesday of every month with about 20 to 25 applications, selected carefully & confidentially, for review by the Chief Minister in presence of all the concerned including the complainant through Video-conferencing facility. This resulted in increase in disposal of cases as well as improvement in its quality, besides effective implementation of various welfare schemes.


*Review by Hon'ble Chief Minister during Samadhan Online*

- **Secretariat (Mantralaya) Computerization** *(https://vallabh.mp.nic.in)* covers Office of Chief Minister, Office of CS, Accounts of GAD, Departmental Monitoring System, File Movement Monitoring System, etc., to facilitate all Departments of the State Government. One of the important section that is related to employees, covers dissemination of Salary Details, Loans, Advances, House Allotment, etc.
- **Chief Minister Monitoring Programme (CMMP)** *(www.mp.gov.in/cmims)* facilitates comprehensive monitoring for an effective and efficient management of Physical & Financial Targets. Under Performance Management System, the Departments have to specify the Physical & Financial Targets at the beginning of the financial year for each of the Schemes/Works for all the concerned District Offices. The System generates various Statistical/Detailed Reports, Thematic Maps, Graphs and PERT Charts for in-depth Analysis. Budgetary provisions are made for initiating and implementing the schemes and programmes. Outlays in the budget reflect a commitment of the government towards realizing goals in the financial year.
- **Samadhan Ek Din Me -** is keeping the citizen convenience as the prime goal. The State Government has opened SAMADHAN Kendras at District Head Quarters to provide services through single window to the citizens. An IntraNET based application facilitates registration of application, uploading of documents, processing of documents, monitoring of the delivery of documents, etc. to facilitate monitoring and preparation/renewal of various Certificates (like Domicile, Caste, Income etc.) besides several other services.
- **Education Portal** *(www.mp.gov.in/ educationportal)* for the State has been designed, developed & implemented as a work-flow application with the

objective to adopt best-practices, streamline & automate various processes involved in the functioning of the School Education Sector in the State.

of Enterprise Spatial GeoDatabase comprising of entire road network, habiation locations, Railways, major water bodies etc. for entire state.

**Excerpt of the letter from Chief Secretary Sh. Rakesh Sahni, Government of Madhya Pradesh**

*The Government of Madhya Pradesh has established an alternative system for flow information about delivery of Basic Services/Amenities from all the villages of the State. NIC support has made possible transfer of large & voluminous data. In-depth analysis, easy & comprehensible reports have helped us in improving the delivery of services in remote rural areas of the State.*

- **e-Scholarship** *(www.mp.gov.in/escholarship)* is an Online workflow based solution for streamlining the Post-Matric scholarship distribution. It involves automation of various processes related to receiving, processing of applications and their sanction/ disbursal.
- **e-Forest** *(www.mp.gov.in/ffms)* involves design, development & deployment of suite of e-Governance applications (includes Forestry Works, Budget and Financial Management System) for automating various activities/functions being carried out by various wings/units of the Forest Department.
- **Bhu-Abhilekh** *(www.landrecords.mp.gov.in),* a Land Records Information System (ISO certified "G2G" and "G2C" application) is developed and implemented up to Tehsil level, to deliver excellent grass root governance within the domain of Land Management. Bhu-Abhilekh aims to facilitate delivery of citizen services such as ROR (Khasra) and Khatauni.
- **GeoAmpere** (Geomatics-based Application Model for Planning Distribution of Electricity to Rural Entities) has been developed for Madhya Pradesh Paschim Kshetra Vidyut Vitran Company Limited (MPPKVVCL) Indore, covering 12 Districts of the State. It provides holistic view of entire Power Distribution Network comprising of Sub-stations (132, 33 KV) & Feeders (33/11 KV) and facilitates Geomatics-based decision support, planning & management.
- **i-GeoApproach** (Internet Geomaticsbased Application for Planning Rural Road Connectivity to Habitations *(http://gismp.nic.in/GeoApproach)* under PMGSY is an enterprise solution (taken on J2EE platform) on SOA architecture. It has been developed for M.P. Rural Raod Development Authority (MPRRDA). Huge efforts are made towards creation
- **MIS for Central Bureau of Health Intelligence (CBHI** *http://cbhi.nic.in/*) involves collection, compilation, analysis and dissemination of information on broad range of indicators related to health status and health services in the country. The system cover formats related to incidence & prevalence of disease, health risks & performance of health systems and provides ready information on various health indicators, which are of great significance to the planners, policy makers, health administrators, research workers and others engaged in raising the health and socio-economic status of the community.
- **Projects Monitoring System for Madhya Pradesh Housing Board** *(HBPMS www.mp.gov.in/hbpms)* helps in monitoring various projects of the Board in respect to their progress, broadly on the bench marks of physical activity, cost over run and time over run. It also facilitates information on Board offices, Contractors, Depositors, Financial institutions, details about completed/ongoing projects, etc.
- **Rate Analysis System (RAS)** is bi-lingual Software for generating Schedule of Rates (SOR), which involves very complex calculations and also takes care of location dependent variables like, transportation cost as it varies from one place to another. It also allows revising the SOR, whenever market rates of basic item change.
- **PARAKH** (Basic Services/Amenities Management System *www.mp.gov.in/parakh*) a proactive mechanism to capture the information on functioning/ availability of basic services/amenities pertaining to 11 key Departments from all 52,000 villages of the State to monitor and ensure delivery of Basic Services/Amenities to rural areas of the State. The Chief Minister reviews the status with all Collectors/Commissioners through VC every month.

- **Bank Recovery Incentive Scheme (BRISC)** developed for Institution of Finance helps in maintenance, management & monitoring of revenue recoveries against Loans given by Banks under various Incentive Schemes of State Government.
- **e-ICDP** (Integrated Co-operative Development Projects www.mp.gov.in/icdp) Scheme of National Co-operative Development Corporation are being implemented in 17 District by State Offices of Registrar & Co-operative Societies to support financially and physically downtrodden population of the State.
- **MIS on SC Development** *(www.mp.gov.in/scdev)* empowers the State Government and district Administration to monitor the distribution of Scholarship and Stipend to SC students, as well as protection of Civil Rights cases against SC/ST for quick disposal, besides assisting analysis of data in various ways.
- **RuralSOFT** *(www.mp.gov.in/ruralsoft)* is a web-enabled monitoring system based on monthly progress reports of various developmental schemes of State Government under Rural Development, such as IAY, MMAY, SGSY, SGRY, MDM, NFFWP, MPREGS, and Watershed Management etc. These progress reports directly reflect the progress of poverty alleviated schemes of Zila Panchayats, besides generating various reports upto District Administration.
- **RuralWORK** *(www.mp.gov.in/ruralwork)* is a web-enabled monitoring system based on sanctioned infra-structure works under poverty alleviated schemes of Rural Development Department.
- **Central Projects -** NIC Madhya Pradesh is also implementing many Central level projects like, CIPA, Agmarknet, NREGA, e-PRI, PlanPLUS, IDSP, DoP, NKN, etc.

## Awards/Special Mention

*The contribution of NIC Madhya Pradesh and State Government in the field of e-Governance has been recognized with prestigious awards for ICT-Services at National & State level.*

- Inaguration of iGeoApproach under PMGSY by the Hon'ble Chief Minister, Sh. Shivraj Singh Chouhan on 29th August 2009.
- Workshop on "Website Quality, Accessibility & Security" jointly organized on 2nd April 2009 by State IT Department & NIC to sensitize the senior officers of State Government.

*Hon'ble Chief Minister Inaugurating iGeoapproach*

- State Education Portal awarded as the best project under "IT for Masses" category.
- GeoAmpere (Geomatics-based Application Model for Planning Distribution of Electricity to Rural Entities) developed for Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited, Indore selected for excellence in e-Governance initiatives.
- 'CSI-Nihilent e-Governance Awards' for 2008-09 in "Excellent Project Award under the best E-governed Project" category, Computerization of Madhya Pradesh Mantralaya emerged as the winner.
- 'CSI-Nihilent e-Governance Awards' for 2008-09 under the Best E-Governed State Category, Madhya Pradesh was Runners-up.
- 'Best e-Governed Districts in Madhya Pradesh' jointly granted to Jabalpur & Sagar districts.
- 'Best e-Governance District of the State' for 2008 jointly conferred to Seoni & Mandla districts.
- 'Computer Society of India (CSI) Award' for 2007 for G2C & G2G/e-Services to "Child Record Information System" whereas "Samadhan Ek Din Me" & "PARAKH" were Runner-ups.

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# Orissa: Bringing Transparency in Governance

*Orissa, a land of quintessential charm, with its natural bounties, gracefully blends the old world splendour with the modern day developments. While nature abounds in all its glory with unspoilt and alluring beaches, rivers, lakes, waterfalls, hills, forests, wildlife and a tribal culture, which is still vibrant with its unique lifestyle.*

*Orissa's rich artistic legacy permeates through time into modern décor, without ever deviating from the basics. Orissa has a substantial industrial base, comprising of a number of large, medium and small-scale enterprises.*

*The thrust in the state is on agro processing, aluminum industries, mining & Information Technology.*

***S.K Panda***
*State Informatics Officer*
*sio@ori.nic.in*

As per the commitment of Govt. of India to expand the base of ITES in the country, NIC Orissa State has been playing a catalytic role in implementing effective e-governance at the State and district levels. The whole ranges of services are offered by NIC, OSU from the following centres:

- State Unit at Unit-4, Sachivalay Marg, Bhubaneswar
- C.M Computer Cell at C.M's Secretariat
- Computer Cell, Governer's House
- Computer Cell, Orissa Legislative Assembly
- Computer Cell, RDC, Berhampur
- District Centres at 30 District Collectorates
- Computer Cell, Passport Office
- Computer Cell, Central Excise
- Computer Cell, Board of Revenue
- Project Sites at different other locations like RTOs, Finance, Home etc.

## Some of the key achievements of the Centre

**Orissa Legislative Assembly:** The Web-based Council of Minister S/W provides data about the Hon'ble Governor, Chief Minister and the other state, state (independent), Deputy Ministers since 1937.Web-based Assembly Question Information System monitors questions asked by the member and answers given by the Deptt. This facilitates various departments to capture concerned questions from this web-based s/w and submit their answers. Bill Information System captures all bill details passed on the floor of the house including bill introduction date, introducing minister, date of Bill passed, Ascent date and bill details.

*Hon'ble CM of Orissa Sh. Naveen Patnaik taking review over VC*

**Registration Authority (RA) office at NIC Bhubaneswar:** In order to address various DSC related issues, NICCA Delhi has been pleased to have the RA office set up at NIC, BBSR. After opening of this office on 31st Oct 2008, about 650 smart card based DSCs have been issued to Government officers, PSUs, IITs, Indian Army etc.

**Milestones of Web casting Studio set up at NIC, Bhubaneswar :** The web-cast service of NIC Orissa offers a turnkey solution for an event,

bringing onsite production, hosting, and streaming to millions of online viewers. Major Web Casts conducted so far include

- Web casting of 14th All India National Childrens' Conference inaugurated by His Excellency Dr. A.P.J.Abdul Kalam, the former President of India.
- Web casting of Mukteswar Dance Festival organized by Government of Orissa.
- World famous Car Festival of Lord Jagannath at Puri every year.

Online Donation to Shri Jagannath Temple, Puri: The Jagannath Temple Management Committee, with the approval of the Government of Orissa, has floated three special schemes as, AMRUT MANOHI, CORPUS DONATION and GENERAL FUNDS. This G2C portal provides facilities for citizens to donate through credit card and net banking facilities

## e-Governance in Panchayati Raj

- **PRIASOFT** provides the financial position of each PRI (30 Districts, 314 Blocks and 6234 Gram Panchayats) on monthly basis under different Major account / schemes.
- **RuralSoft** addresses the monitoring of physical progress of the rural development projects implemented at the village level. The details like cost, location and status etc. of projects implemented at the village level under different rural development schemes are available on public domain over net.

**NIC Cell at Home Department, Govt of Orissa:** The cell provides IT based services to about 46 Sections of Home department. The major activities currently focused are:

- Gradation List of IPS Officers and officials of Common Cadre, OSS Cadre, Steno Cadre
- Photo Identity Cards of Regular employees of the Secretariat.
- Recording and Monitoring of Court Cases etc.

**SUBIDHA-** State Urban local Bodies Integrated Data Handling & Access have web enabled modules comprising of Citizen Centric Grievance Redressal Monitoring System, Kalyan Mandap Reservation System, Marriage Registration, Birth Registration, Death Registration, Holding Tax Monitoring System, License Monitoring System, Old age Pension, Employee Provident Fund Monitoring System, Urban BPL.

All the modules are pluggable to Citizen Service Centres through the use of SOA and XML Web Services. Presently, these modules are pluggable to other service integration software developed by SREI-SAHAJ (developed by WIPRO), Safal Solutions (Developed by Basix Ltd.) etc. under the "Jana Seva Kendra" project coordinated by Department of IT, Govt. of Orissa. The package has been accepted for Citizen Facilitation Center (CFC) under the GOI-UNDP "Capacity building for Decentralised Urban Governance" project & "One Day Governance" facility project initiated by Revenue department.

**NICGeP** NIC e-Procurement System is a highly secure online tendering system portal designed to cater to the requirements of the Government of Orissa. It facilitates online creation of tender, publishing on the web, online participation by the bidders, offline technical evaluation and online financial evaluation of tenders as well as award of contract. The portal operates in https mode and security auditing has been done by two third party agencies STQC and CyberQ. The system uses DSC based login by both bidders and departmental officers and PKI encryption and decryption technology for storing and retrieving the bids and all activities are time stamped.

As on date, 8522 number of tenders has been hosted worth Rupees 20865 crores in the portal. 2036 officers & more than 5000 bidders have been trained in the process. Successful implementation in Orissa has encouraged public sector undertakings like OMC, OPTCL, MCL to join the e-Procurement movement.

Teams from World Bank and Asian Development Bank have reviewed the features of NIC-GeP with respect to the international governance solutions. ***e-Procurement Implementation in Orissa won the e-India 2009 (G2B) Award.***


*SIO Orissa Sh. S.K Panda receiving e-India 2009 award*

**An excerpt from the draft ADB assessment report specifies that**

*The NIC e-Tendering System and the process in use by Orissa Department of Rural Development is a well developed and resourced and meets all essential ADB requirements for e-procurement including transparency of the process, non-discrimination of bidders, equality of access, open competition, accountability, and security of process. The system has well developed security, process management, communication, record keeping and audit capability and has been highly successful in meeting the Govt. of Orissa Objective for adoption of best practice strategy sourcing processes and to bring transparency in Govt. tender executions.*

**Tehsil Land Records Application in Orissa (Bhulekh):** ROR/ Certified Copy, Mutation, Query and Reports modules of "Bhulekh" facilitate issue of ROR Certified Copy, Plot Index and Chumbak Khatiyan, mutation data entry and updation, Record Correction along with detailed history report, generalized and specific query and issue of various miscellaneous certificates. The Application supports Mutation process workflow that enables to efficiently monitor the mutation cases and faster disposal.

**VAHAN & SARATHI:** Computerisation of all the 34 RTO offices in the state by implementing Smart Card based application software 'SARATHI' and 'VAHAN'. This facilitates in getting Driving License and Registration Certificate online without intervention of any middle man practices. 'SARATHI' and 'VAHAN' applications accommodates all requirements of a RTO and provides service online starting from collection of fees, recording online photograph and signature of the candidate, automatic calculation of fees, tax, penalty etc for different services under DL and RC, eliminates fake issuance of DL & RC etc. Since, the project is being executed through BOOT model, the issuance of DL and RC by the competent authority is being carried out by a secured Key Management Process developed by NIC.

*Hon'ble CM Sh. Naveen Patnaik inaugurating Bhubaneswar RTO*

**Performance Appraisal Report (PAR) Maintenance & Monitoring System** keeps record of all information relating to PAR of State Govt. Officers & Staffs in their respective departments and of All India Services officers of the State. It facilitates the tracking of PARs at all stages in order to avoid a delay in submission or any un-toward mishaps and timely preparation of the assessment sheet for the purpose of DPC / Time Bound advancement scale. Web based information sharing with the employees on the status of pending CCRs have brought transparency in the system.

**Web enabled MIS for RWSS (Rural Water Supply & Sanitation):** The system facilitates the users with a Web based Management Information System (MIS) for 5 operational levels (viz. CE Office, Circles, Divisions, Sub-Divisions & Sections) for RWS&S, Orissa. This application is useful in effective planning, monitoring and implementation of various activities of the RWS&S and availability of data to all concerned.

## e-Governance in Health Sector:

**Doctors' Information System** contains personal information of doctors having online updation facility. This has both administrative and citizen interface to

various queries pertaining to the data. Monitoring of the Physical and Financial Achievements made by the districts under various Health Schemes for the "National Rural Health Mission" has been developed.

## e-Governance in Finance Sector

- **Annual Budget Information System** implemented to compile and process the Annual Budget and Vote on Account, meet various queries on annual budget of the state, raised by World Bank, Legislative Assembly and other departments.
- **Letter of Credit Monitoring System** implemented to establish the control on issue and utilization of letter of credit and to closely monitor the scheme wise and plan wise LC position and to make the accounting easier. The system prepares reports showing the Budget Provision, LC Due, Cut in LC, Supplementary effects on LC, DGS&D Deductions, Improvement over previous year, Net entitlement and LC position as on date.
- **Teachers Provident Fund Accounting System** for the Office of the Controller of Accounts, Orissa, mainly deals with preparation of Ledger Cards and Account Slips for all the employees under Orissa State Govt Aided Educational Institutions. The system enables data entry for monthly Treasury Schedules along with Challans and Vouchers, Entry of Opening Balance, Compilation of Treasury Schedules along with Challans and Vouchers, Check List for both Treasury Schedules along with Challans and Vouchers, Broadsheet generation and preparation of Ledger Cards along with final Account Slips.

**Other e-Governance Initiatives in Orissa**

**Public Health 3Tier Project Water Billing & Payment System:** The water tariff billing & payment system is operational at the six major towns of Orissa. Besides generation and print facility of monthly bills, the system handles user payments, tariff policy, consumer information and adjustments. Workflow concept is used to segregate the process sub tasks, defines roles and responsibilities for each employee, and allows for effective segregation of data through uniform location codes, jurisdiction and organizational hierarchy.

**Web GIS of Orissa State:** GIS Based Micro-Level District Plan districts, GIS Based Flood Monitoring System and Micro-Level Web-GIS using Open Source for districts of Orissa have been successfully developed.

**Agriculture:** **AGMARKNET** portal of DMI, GOI-Information on Agricultural produces of farmers all over the country is regularly updated in 58 RMCs in Orissa.

**Planning & Coordination:** Plan Expenditure Monitoring System to monitor scheme wise expenditure incurred under SP, CSP, CP and RIDF to monitor project details received under RIDF Scheme have been implemented.

## Awards & Recognitions

***The ICT progress in Orissa is commendable. There is no doubt that the projects and services implemented and rendered by NIC Orissa State Unit is a boon for the Oriya people and is receiving due recognisation . Below are Awards and Recognisation that is enough to prove the fact.***

**PRIASOFT -Panchayati Raj Institutions Accounts monitoring Software**

- Exemplary e-Gov project 2006
- Microsoft e-Governance Award 2006

**Ruralsoft**

- Exemplary e-Gov project 2006

**CCR Tracking System**

- "Best e-Governance Application" State Award 2007

**Counting Rain Drops (Rainfall Monitoring System)**

- Data Quest e-Gov Champion Award (Eastern Region) 2008

**SUBIDHA State Urban local Bodies Integrated Data Handling & Access**

- **"Pragati Sathi"** Partner of Progress Award 2008

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***Edited by:*** **R. Gayatri**

# e-Procurement: Bridging Digital Divide

***An Exclusive Interview with* Sh. Pradipta Kumar Mohapatra, *IAS, IT Secretary, Govt. of Orissa on successful completion of one year of Implementation of NIC-GePin Orissa***

**i We congratulate you on completion of one year of successful roll out of eProcurement system in Govt. of Orissa on July 2009. We would like to hear more from you on the mission you have accomplished.**

**PKM:** Thank you. I extend my hearty congratulation to all the team members who have really worked hard for the success of the project. In fact, this was a mission mode project of Govt. of India and a major initiative of Govt. of Orissa.

*e-Procurement Implementation workshop is in progress*

**i Can you please brief us the initial phases of the evolution of the project?**

**PKM:** Initially, we thought of making a generic module to cater to the tendering process of works procurement. Orissa Government's works procurement is guided by OPWD code (Orissa Public Works Department code). Process re-engineering exercise was carried out with the help of National Informatics Centre. Alongside, a Mission team was formed with engineers from major engineering departments such as Works, Water Resources, Housing and Urban development, and Rural Development department. This was a massive restructuring exercise and led to the freezing of AS-IS and TO-BE documents. With the active support of the Hon'ble Chief Minister, Orissa, the project got an impetus with formation of State Level Steering Committee on e-Procurement.


**Sh. Pradipta Kumar Mohapatra,** IAS,
*IT Secretary*
*Govt. of Orissa*

**i How could you plan out the Infrastructure requirements that led to the desired level of e-readiness in a short span of time?**

**PKM:** The major challenges were to make available the requisite infrastructure like computers, Internet connectivity to various department users at Chief Engineers, Superintendent Engineers and at Executive Engineers level offices and a strategy so that remote bidding can be made available to bidders. Accordingly, about 400 cyber kiosk owners were trained throughout the state as facilitators and Government rates for bidding by various classes of contractors were fixed. DIOs of NIC District Units facilitated the tender publishing and bidding for departmental users as well as Training to bidders. Media publications & Advertisements, User manuals, self-learning kit were distributed among the Bidders community & deptts.

DSC management being a major issue, NIC was requested to set up RA office at Bhubaneswar. I express my sincere thanks to Dr. B.K Gairola DG, NIC and Dr. Y.K Sharma DDG, NIC for establishing

the RA office at Bhubaneswar. The requisite server infrastructure, back up server management etc. have been carried out at NIC Data center and day to day server management is being looked after by NIC, Bhubaneswar.

***i*** **What are the major initiatives you have undertaken for the sustenance of this unique G2B e-Governance system & Operational Management aspects?**

**PKM:** Yeah, we are setting up a State Procurement Cell to act as an umbrella organization to manage all procurement related issues on a day to day basis. The objectives of this Cell would be:

- Re-design and re-visit procedures and identify redundant and non-transparent process and establishing best procurement practices.
- Standardisation of documents and processes for procurement of works, goods and services across the state.
- Formulation of public procurement act etc.

***i*** **It is understood that when projects of such magnitude and complexity are planned, impediments are inevitable. What were the major roadblocks you have faced?**

**PKM:** After the development of the software by National Informatics Centre the major challenge was to sensitize Government users for tender publishing and training of bidders to use the system for online bidding. For this large-scale implementation, a Project Management Unit to assist mission was formed under IT department. NIC team, Mission and PMU members trained approx 1500 department users in KIIT University campus in June 2008 and the training went for a month continuously in the first phase.

*Training sessions going on at KIIT*

Piloting was carried out on 17th March, 2009 with just two tenders in hybrid mode. Tender fees were waived off during pilot for online bidding as an incentive to bidders. The overwhelming result indicating 70% online bids provided the necessary inspiration to march ahead. With this the Government notification was issued to compulsorily do away with manual tendering w.e.f 1st July, 2008.

***i*** **You have been driving the Project from the Front and now how do you articulate factors of Success for such a complex e-Governance project?**

**PKM:** I am indeed satisfied that even the World Bank and Asian Development Bank have reviewed the entire software, the process, technology etc. and given positive remarks.

The synergy among various officers, Technology providers with a proactive leadership under the Hon'ble Chief Minister brought such a complex project to where it is today. With Periodic Review, a clear understanding regarding the responsibilities of officers as well as the stakeholders of the project led to its success.

I would attribute successful GePNIC (Government eProcurement System of National Informatics Centre) implementation at Orissa to all the members who have contributed significantly in this project namely Sh. K.S Raghavan and Mr. M Manivanan from NIC, Chennai, Sh. S.K Panda, SIO, Orissa, Sh. A. K. Hota, Sh. T.P Ray and Sh. Nihar Ranjan Biswal from NIC, Bhubaneswar. Er. G.B Kar, Er. B. B Padhy, Er. P.K Behera, Er. B. Bala and Er. Trinath Behera from Orissa eProcurement Mission.

***Interviewed by:*** **S K Panda**
SIO & Sr. Technical Director
Orissa

# SSL VPN: A Technology Overview

*In the world of distributed computing, corporate applications are hosted in data centers located in multiple locations and are accessed by many users from various locations. To provide secure access to such network resources, technocrats have designed Secure Socket Layer Virtual Private Network (SSL VPN), a remote access technology to connect private networks over Internet - with strong encryption features, multiple authentication and connectivity options for mass deployments.*

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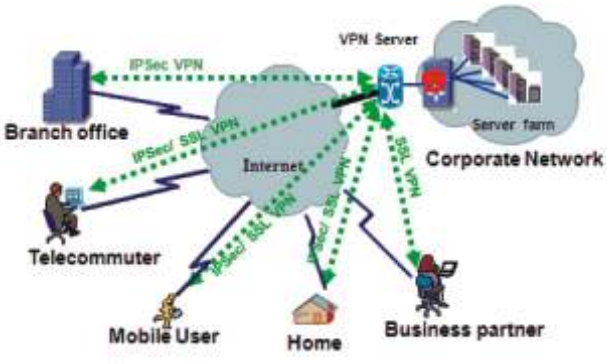
**A virtual private network** (VPN) has been traditionally used to connect branch offices to the corporate office over Internet as an alternative to expensive WAN connections. Now it is also being used by individual users to access sensitive data, to increase mobility and online transactions. VPN creates a virtual "tunnel" connecting two endpoints by encrypting end to end communication and protecting the data from unauthorized access or interception. There are many VPN technologies such as IPSec, PPTP, L2TP and MPLS which are deployed to meet this requirement. IPSec and L2TP VPN are used for connecting Remote/ branch offices to corporate network over Internet and provide consistent network access similar to LAN. Telecommuters and mobile users, who require seamless access to corporate network for regular work, usually use IPSec VPN or Client based SSL VPN. Clientless SSL VPN connection is provided to business partners, suppliers, public dealing executives, who require partial access to internal applications involving financial transactions, customer details etc from multiple locations such as reservation counters, KIOSKS, Cyber Café, Public Utility centres.

IP Security (IPSec) VPN is very popular VPN technology which is being used for both Site to Site and Remote Access. IPSec VPN can encrypt any IP traffic including Video with multiple encryption algorithms and authentication options. Though IPSec VPN is an accepted industry standard for remote access, there are some interoperability issues which make it difficult for mass deployment. IPSec VPN binds the user to a particular machine/laptop where the VPN client S/W is installed. Secondly VPN clients of one vendor usually conflicts with other vendors. Also VPN clients behind Proxy servers face difficulty in establishing IPSec VPN connection as some Proxy Servers do not support IPSec or block the ports required for IPSec communication.




*Virtual Private Network Architecture*

Secure Socket Layer (SSL) VPN is an emerging VPN technology which allows users to connect to the enterprise network from anywhere anytime over Internet using any standard web browser. It

supports access to all applications like Http, HTTPS, FTP, SSH, RDP over secure SSL tunnel. SSL VPN does not require any client software to be installed thus allowing VPN connection even from less trusted network as Cyber café and KIOSKS.

This article intends to give general overview of SSL VPN Technology, architecture, functions and features.

## SSL protocol

SSL protocol was designed by Netscape Corporation to protect only traffic generated by Web browser. This protocol aims to encrypt entire communication between client's browser and Web server. SSL VPN uses this concept to create a secure tunnel using SSL protocol between the client and SSL Server and then relays the web traffic to the actual servers.

SSL functions in between the Application Layer and Transport layer using TCP port 443. SSL receives data from application layer, authenticate, signs and encrypts before sending to the transport layer.

Any SSL session has two main phases.

- **SSL Session Negotiation:** It starts when the SSL client initiates a https connection to the SSL server. The SSL Server responds by presenting its SSL certificate issued by a trusted Certificate Authority. The User accepts the Certificate and presents its own Digital certificate if demanded by the server. Then the server and client exchange their security parameters (Cipher suite) to negotiate on a master key. This master key is used to generate session keys which are used for data encryption. SSL supports multiple encryption algorithms and are deployed as per the organizations' security policies. It uses asymmetric cryptographic algorithms to secure the exchange of the session keys.
- **SSL connection:** Once the negotiation phase is completed, the session key generated from the master key is used to encrypt, Hash the data and transport the data. It uses symmetric cryptography for data encryption / decryption.

Periodically the session keys are exchanged between the client and server using the pre negotiated master key. The security parameters negotiated in a SSL session and are effective until the session is terminated. Whereas for any new connection, new session key is used for data encryption between the client and server.

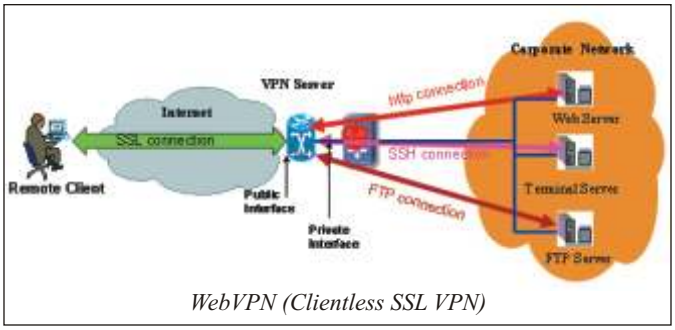
## SSL VPN Architecture

Components of SSL VPN include SSL VPN Server / Gateway, VPN users, AAA servers and Network resources as application servers.

## SSLVPN Server / Gateway

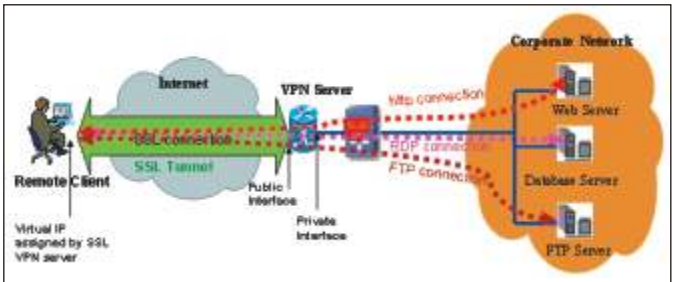
SSL VPN servers are usually hardware appliances like Firewall which have a Public Interface and multiple private interfaces. The SSL VPN client connects to the SSL VPN server's public interface using https protocol through any standard Web Browser such as Internet Explorer, Mozilla FireFox etc that supports SSL Version 3 and above. All internal application servers are connected to the private interfaces of the SSL appliance. Primarily there are two ways in which SSL VPN can be designed:

- **Web VPN ( Clientless SSL) :** In this type of SSL VPN , users connect to SSLVPN server and after the SSL session is established, the server redirects the connection to a Web Portal which has multiple links to other internal Web Servers, FTP server, Terminal servers etc. All user requests are received by this portal and relayed to the respective internal servers and vice versa. A single SSL connection is established between client and SSL Server and connection to application is established between the SSL VPN Server and corresponding application server. However it doesn't support all applications which require client side scripting.




*WebVPN (Clientless SSL VPN)*

- **Client based SSL:** It allows users to connect non Web applications like Remote Desktop , Outlook Express, SSH Client, Database Server etc. After the SSL VPN connection is established, SSL client agent is automatically loaded and activated as plug-ins into the user's machine. The SSL client is assigned a Virtual IP address from the SSL VPN Server. SSL Client agent uses proprietary mechanism to encapsulate all non Web traffic of the client and transports through the SSL tunnel. Though some functionalities of IPSEC VPN are fulfilled in Client based SSL VPN, still it cannot support some VoIP/ Video Conferencing applications.




*Client based SSL VPN*

## Additional features of SSL VPN

- **Authentication of SSL Client:** In general SSL connection does not require client authentication. However for implementing SSL VPN, authentication is essential to identify the users and enforcing group policies. SSL VPN supports flexible client authentication methods such as X.509 digital certificates, smart cards, username and password and two-factor authentication (e-Tokens). SSL VPN also supports authentication from external servers such as RADIUS, Active Directory, and Lightweight Directory Access Protocol (LDAP). This is required to integrate with existing authentication databases for centralized management, accounting and billing.

- **Application Translation:** The latest version of SSL VPN also performs as application translation which can convert information of non Web-enabled applications. This allows users to use a Web browser to access applications that do not have their own Web interfaces or require client software. For example, SSL Web VPN can be configured to upload files from FTP Servers without using FTP or SSH client at user end. The SSL VPN server translates this application into Web-based format and relays to the user.

- **Network Access:** Apart from tunneling Web applications, SSL VPN can also encapsulate all TCP/IP traffic and transport through the SSL Tunnel including the routing information. In full tunneling mode, it can transport all TCP/IP traffic generated from applications like Outlook Express, terminal services, file sharing in the client system to corporate network through the SSL tunnel. In Split tunneling mode, only traffic for internal applications are routed through the SSL tunnel and other Internet traffic is routed through normal network connection. To support this feature the remote client agent (SSL Client) is activated as plug-in in the client machine from the VPN server.

- **Access Control:** SSL VPN can control the access of remote users in granular level such as per-user, per-group and per-network through group polices. Group policies can be configured to allow users of certain group to access more resources, if they are coming from specific network i.e. branch offices and during office hour. However, the same user group is limited to few resources if they are not coming from specific network.

- **Endpoint security controls:** SSL VPN can validate the integrity of remote client by checking weather it has up-to-date patches and antivirus software, before permitting access to the client.

***As mentioned SSL VPN is an emerging technology and vendors are regularly upgrading the features of their products. However the selection of VPN technologies depends on the user's requirement. Even though many functionalities of IPSec VPN are incorporated in Client based SSL VPN, it is not a substitute of IPSec. SSL VPN is a useful technology for mass deployment for semi trained users as customers, suppliers, temporary work force from un-trusted network.***

# Hands Free Computing by Integrating Speech Recognisation

*Voice reorganization and text to speech system is becoming a powerful tool to provide the services through ICT for the physically handicapped people. While entering to ATM counters and just after swapping the ATM card in the reader, a greeting voice as well as guiding instruction can be heard in almost all ATM counters, which is of course a commendable step to bring those physically handicapped people to the domain of ATM user. As it is just an innovative thought to use the technological power of Speech synthesis into a way to increase quality of service in the Banking sector, so in the same way e-Governance services can become more reachable by the use of this technology in an innovative way.*

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Government of India and State Governments are providing various kind of facilitation for the betterment of physically challenged persons by providing them education and employment, so e-Governance application should also target this section of the user by providing additional functionalities for them. Integration of Voice Recognition system in e-Governance and making them language interoperable can address the challenges of this section as well as a great solution for those who haven't came out from illiteracy to e-Literacy as they don't need to use any electronic gadgets. Developing voice enable software application is not at all a rocket science technology. In this article it has been outlined, some of the basic tricks to Integrate Speech Recognition and Text to Speech feature for Microsoft .net Framework coded in both VB.net as well as C#.net.

Speech API consists of two types of services. First one is converting text to speech using configured synthesized voice and second is speech Recognition in Dictation mode as well as in command mode. In the quick start we may follow examples as bellow.

**Example for Text-to-Speech conversion**

**Step1.** Create a New project using VB.net or C#.net

- Add a TextBox named txt_speek and a Button name btn_sub

**Step2.** Add Reference. Procedure is same for both VB and C# languages.

In the solution Explorer Right Click on the root element and choose Add Reference.

- In the COM tab select sample TTS engine and holding the 'Ctrl' key select Microsoft Speech Object Library

**Step3.** Imports the Speech Library

In VB: `Imports speechLib`

In C#: `Using speechLib`

**Step4.** Call the speak Method of spVoice object in the Button click event.

In VB:

```
Dim Voice As SpVoice = New
SpVoice()

Voice.Speak(text,SpeechVoic
eSpeakFlags.SVSFDefault)
```

In C#:

```
SpVoice voice= New
SpVoice();

Voice.Speak(text,SpeechVoic
eSpeakFlags.SVSFDefault);
```

Now your programme is ready to speak what ever you write in the text box. There are lot of features in the API to adjust volume, rate of Speech, Pitch, Voice and many more which can be explored by little trial and error method by the interested reader.

**Example for Speech Recognition**

**Step1.**

- Create a New project usingVB.net or C#.net

- Add a TextBox named txt_rec

**Step2.** Add Reference. Procedure is same for both VB and C# languages.

- In the solution Explorer Right Click on the root element and choose Add Reference.
- In the COM tab select sample TTS engine and holding the 'Ctrl' key select Microsoft Speech Object Library

**Step3.** Imports the Speech Library

In VB: `Imports speechLib`

In C#: `Using speechLib`

**Step4.** Create the Event

In VB:

```
public sub RecoContext_Recognition (Byval
StreamNumber as Integer,Byval
StreamPosition as Object, Byval
RecognitionType as Speech Recognition
Type, Byval Result as ISpeech RecoResult)

//Get the text from the speech //received
from Microphone

dim word as string =
Result.PhraseInfo.GetText(0, -1, true)

textBox1.AppendText(word)

End Sub
```

In C#:

```
public void Reco Context_Recognition (int
Stream Number, object Stream Position,
SpeechRecognitionType  Recognition Type,
I Speech Reco Result Result)

{

//Get the text from the speech //received
from Microphone

string word =
Result.PhraseInfo.GetText(0, -1, true);

txt_rec.AppendText(word);

}
```

**Step5.** Register the event in Form Load

In VB:

```
Private Sub Form1_Load(ByVal sender As
System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

Dim objRecoContext As New _
SpSharedRecoContext

AddHandler _ objRecoContext.Recognition,
AddressOf RecoContext_Recognition

Dim grammar As ISpeechRecoGrammar =
objRecoContext.CreateGrammar(0)

grammar.DictationSetState(SpeechRuleState
.SGDSActive)

End Sub
```

In C#:

```
private void Form1_Load(object sender,
EventArgs e)

{

SpSharedRecoContext objRecoContext = new
SpSharedRecoContext();

objRecoContext.Recognition += new
_ISpeechRecoContextEvents_RecognitionEven
tHandler(RecoContext_Recognition);

ISpeechRecoGrammar grammar =
objRecoContext.CreateGrammar(0);

grammar.DictationSetState(SpeechRuleState
.SGDSActive);}
```

Now the Application is ready to receive voice from the Microphone and convert that to Text to display in the text box. The speech engine provided by Microsoft i.e Microsoft Speech SDK although is a powerful tool for integrating speech Recognition but have certain major challenges. It is not so much efficient to work with Indian language and Indian accent. Many Other speech engines are available which support Indian accent. Among which 'Bhasana' developed by CDAC Department of IT, Govt of India may be the most suitable. It has three Databases as 'Bhavna' (Emotion Database), 'Uchharak' (Language Database), 'Anuvaachak' (Accent Database). I hope this article will give an initial boost for the developer.

***For further information contact,***

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# Hamirpur: ICT in the Veer Bhoomi

*Hamirpur district, the "Veer Bhoomi" is one of the twelve districts of Himachal Pradesh. The district is situated between 76° 18' to 76 ° 44' East longitudes and 31° 25' to 31° 52' North latitudes. The tract is hilly, covered by Shivalik range. The elevation varies from 400 meters to 1100 meters. The district is well connected by roads from all sides. Hamirpur is the most literate district in Himachal Pradesh. The district has the unique identification for the majority of the people serving in the defence services thus popularly known as "Veer Bhoomi".*

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The presence of NIC in the district, set up in 1989, has helped in making tremendous strides towards empowering district administration with IT tools, spreading computer awareness and development/ implementation of numerous IT applications.

**Excerpt of the Letter from Sh. Abhishek Jain, IAS, Deputy Commissioner, Hamirpur.**

*The NIC has been doing commendable work in the District with pro-active approach in implementing various e-Governance solutions. eSoochana- an amalgam of e-Governance and right to Information is proposed to be implemented providing various useful services to the public down upto sub-division levels. LokMitra Centres are also being set up in all the Panchayats to improve grass-root public service delivery using Information Technology.*

## The Key Activities

**District Collectorate**

- **RefNIC:** This software is used for computerized monitoring of the movement of letters and / or files in the sections / branches of the office.
- **Schemes MIS:** The DC offices receive various types of demands/proposals from Ministers, MLAs/MPs, Govt. offices and Panchayats etc. requesting financial assistance for developmental works. It is a work-flow system covering sanctioning of funds to their physical & financial progress till the scheme is fully implemented.
- **e-Kiosk:** This touch screen based G2C system provides information regarding history, geography, fact files, tourist places, bus & railway time tables, vehicle registration, school results of HP, officer's telephone no., development scheme of various departments, martyrs/soldier's lists of the district.
- **Personnel MIS (PMIS):** A web based application being used to manage the full details of the employees and to generate the service book along with all the necessary reports/registers etc. electronically.

## Pehal:e-Govenance Centres

To provide citizen friendly services using Information Technology, the e-Governance Centres "Pehal" have been set up by the district administration through the efforts of National Informatics Centre (NIC), being run under District e-Governance Society. These centres have been setup in all the four Sub-Divisions viz. Hamirpur, Nadaun, Barsar and Bhoranj and in Regional Transport Office for providing prompt and quality services to citizens. ***All the four Pehal Centres of the district are ISO 9001:2000 Certified.***

## Prominent G2C services under e-Governance

- **Cash Counters:** Integration of fees and tax collection at Single Cash Counter (Single Window Service) with Issuance of Vehicle Licenses, Vehicle Registration and Tax Collection

- **Vahan and Sarathi:** Vahan is a workflow based application being used for issuance of Registration Certificates and Permits for Vehicles whereas Sarathi is used for issuance of all types of driving licenses related to learners, conductors and drivers.
- **e-Samadhan:** Grievance Redressal System: A web based role based system being used for the redressal of public grievances
- **LokMitra:** The pilot project was formally launched by the Chief Minister of Himachal Pradesh on 8th May 2001 in district Hamirpur and presently is being extended up to the village level across the state.
- **Shastr:** A role based on-line system for issuance and renewal/endorsement of Arms Licenses

*Inauguration of Arms License Issuance System SW by Deputy Commissioner*

## Treasury Computerization

- **HPOTIS:** This software is implemented in District Treasury and all the Sub-Treasuries of the district. The bills are presented in the treasury at token section, where computerized token no. is assigned to every bills or challan. Then the bill/challan is referred to the bill passing section. On feeding token no. in bill passing section, all the information is displayed. Subsequently bill is passed or rejected by the DTO/TO.
- **HPPDIS:** Implemented at District Treasury Office Hamirpur, the application is used for the disbursement of pension. The bank-wise scrolls are generated and given to all the banks, who credit the accounts of the pensioners. The pensioners are able to see the pension details on the web portal.
- **e-Salary:** This software has been implemented in all the treasuries of the district to generate the salary scrolls of all the employees in the district of various departments. Treasuries are generating employee wise salary scroll of each DDO. Monthly, one consolidated cheque is handed over to DDO to be payable at bank branch.

## Social Justice & Empowerment

- **e-Kalyan:** This software is used for the disbursement of the welfare pensions to different categories. This software has facilities for maintaining waiting lists, the pensioner's details, MO generation.
- **e-Pehchan:** This software is implemented in District Welfare Office for issuance of the Disability and Senior Citizen identity cards and keeps their record and generates various MIS reports.

## Rural Development

- **NREGA Soft:** The offline/online software has been implemented in DRDA, developmental blocks and all the Gram Panchayats circles of the district.
- **e-Vikas:** A touch screen based system is installed in the collectorate complexes which provides full information about the various works completed or initiated under different development schemes. It also contains the list of the members of the Panchayati Raj Institutions, list of MLAs, MPs with their addresses.

**District Website:** The official website of District Hamirpur *(http://hphamirpur.nic.in)* designed & developed as a one point source of information of the district. It provides information about history, facts files, culture, temples, accessibility, tourist places and citizen services etc. Former President, Dr. APJ Abdul Kalaam referred to this website before visiting NIT Hamirpur for annual convocation and this fact was highlighted by the press.

**Video Conferencing:** The NIC Centre provides Video Conferencing services from its VC studio located in the Deputy Commissioner's Office. The VC is also used by the officers for interacting with the other district officers, HODs/Secretaries, Ministers and the Hon'ble CM.

***For further information, contact***

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***Edited by:*** **Vivek Verma**

# Upper Siang: Marching Towards ICT Excellence

*Upper Siang a newly created district with its headquarter at Yingkiong in the state of Arunachal Pradesh, encompassing an area of 6188 Sq. km, is a mountainous region endowed with rich natural resources and biodiversity. The mighty Siang River flows though the heart of the district and is referred to as the "Missing Link" - the unexplored channel that formed a link between the Tsangpo of Tibet and the Brahmaputra of Assam.It is inhabited by Adi, Memba, Khamba and Idu Mishmi tribes who have been harmoniously living in the cradle of nature since time immemorial with colourful festivals / rituals like Solung, Aran, Reh, Lossar, Dihang, etc.*

***Utpal Kumar Ghosh***
*District Informatics Officer*
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NIC Upper Siang District Centre was established at Deputy Commissioner's Office Building in the year 2005 at Yingkiong to provide ICT-based services for all round development in the newly created district. Since inception the centre has extended ICT-based services and support to the district administration, which has helped in providing transparent and responsive governance, meeting aspirations of the people in the region.

The District has been divided into three Sub - Divisions for better administrative control. These are Yingkiong, Mariyang and Tuting put up under the administrative control of Sub-Divisional Officers except district HQ, which is under the control of the Deputy Commissioner. Further, Sub-Divisions are again divided into 10 circles under the control of Circle Officers. The village is the lowest administrative unit having its own traditional administrative system in the form of Village Council called "Kebang".

delivery of services has proved to be highly beneficial for the people living even in the remote areas. The web-based system implemented has modules for issue of Scheduled Tribe Certificate (STC), Permanent Resident Certificate (PRC), Inner-Line Permit (ILP), Identity Card etc. Additional services like Trading Licence, Birth Certificate, Death Certificate, Arms License & Ration Cards, etc are planned for roll out in the near future. These services will also be available to the people living in remote villages and far-flung areas. The operationalization of such ICT based services has significantly improved the quality of governance in the district by drastically reducing the time to obtain such certificates. Related services like photocopying, lamination, DTP, etc are allowed to make the centre financially self-reliant. Various forms for public utility services are also made available through the centre.

The major ICT-based Projects undertaken and implemented by NIC Upper Siang District Centre are cited below-

**Jan Suvidha Centre:** A single window point for receipt of applications and


*Jan Suvidha Centre inaugurated by Sh. P.S. Lokhande, Secretary to Governor & Planning, Govt. of Arunachal Pradesh*

**Excerpt of the message from the Deputy Commissioner, Sh. Pawan. Kr. Sain, Upper Siang District,Yingkiong.**

*We are extremely pleased to know that NIC is bringing out Informatics October, 2009 issue highlighting Upper Siang in its District Informatics Section. From the time of its inception in 2005, NIC has been supporting the administration in all kinds of ICT based developments in the district. We highly appreciate the committed support of NIC District Centre in setting-up of JAN SUVIDHA CENTRE a single Window Service Point for Upper Siang and in the implementation of other ICT related projects in the district.*

**Web Site:** The official website *http://uppersiang.nic.in* of the district was designed and developed by the district centre. It gives detailed information about the district pertaining to agriculture, education, economy, forest, horticulture etc. Information related to tourism, socio cultural life of the people, administrative details etc. are neatly compiled. The district profile, telephone directory of officials and photo gallery are of special interest to the visitors.


*Website of Upper Siang District*

**Lok Sabha Election 2009:** The district centre provided full assistance to the administration in conducting the recently concluded "Lok Sabha" elections - 2009. The software successfully met the Election Commission of India guidelines regarding randomization of polling personnel and electronic voting machines, deployment of personnel, counting of votes, and finally transmission of election results, etc.

**Pay Bill System:** The Pay Bill System (APPS 3.0) was implemented at Deputy Commissioner's Office in the year 2007. The system has significantly reduced the workload and time taken in preparation of pay bills for over 400 employees of the district. The Pay Bill System was recently upgraded to Version 4.0 which incorporates the 6th Pay Commission recommendations.

**Extension of Internet Connectivity:** Internet and its utility has significantly influenced the minds of the people in this remote district of the state while its importance has been adequately felt for the upliftment of the people in the area. The establishment of Internet Connectivity using NIC link was extended through LAN to many nearby departments and offices like DC office, Information & Public Relations, Relief & Rehabilitation, DRDA, Medical, SSA Unit, Planning Unit, Statistics, ICDS, etc.

**Video Conferencing (VC) Facility:** VC facility was set up in the district using VSAT Connectivity. The facility has helped in bringing the district administration closer to the state capital leading to quick reviews of developmental schemes etc.

**Training:** Various technical training programs are conducted by the centre for the staff and officers of the district. This has led to project based capacity building and in promoting ICT awareness among the district personnel.

**Central Projects:** The centre has successfully implemented various central projects. These are as follows:

- Integrated Disease Surveillance Program (IDSP)
- Computerization & Networking of Consumer Forum (CONFONET)
- Agriculture Marketing Network (AGMARKNET)

Some important central projects like National Rural Employment Guarantee Scheme (NREGS) and Common Integrated Police Application (CIPA) are at various stages and are likely to be rolled out shortly.

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***Edited by:*** Prashant Belwariar

# Palamu: Putting Digital Governance at the Forefront

*Palamu famous for its tiger reserve located at the 'Betla National Park' just 25 Km from Daltonganj, the administrative headquarter of the district is situated on the banks of Koel river. The tiger reserve delights tourists with its scenic beauty is part of the nine tiger reserves of India under "Project Tiger" and spreads over an area of more than thousand square Kms along the northern edge of the Chotanagpur plateau in Jharkhand. The district is bordered on the north by Son River, on the east by the Chatra and Hazaribagh, on the south by Latehar and on the west by Garhwa districts.*

***Anil Kumar Singh***
*District Informatics Officer*
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**NIC Palamu District Centre** was established in the year 1989, to promote digital governance using ICT for better planning and decision support system thereby providing efficient service and transparency to its citizens. The centre has played an active role in promoting ICT culture enabling e-governance in the district.

**Website:** The website *http://www.palamu.nic.in* of the district provides information on history, tourism, important facts, figure & activities of the district. The video conferencing facility at the district provides state of art communication facility for prompt monitoring of developmental schemes, organizing meetings & conferences.

**e-PRI Workshop :** Ministry of Panchayat Raj, GOI has chosen Palamu as a pilot district for implementing ICT at the Panchayat level. Two workshops were organized in the district in quick succession as a part of the sensitization program. The e-PRI Mission Mode Project under NeGP holds great promise for the rural masses as it aims at streamlining the delivery of government services through Panchayats. It is proposed to provide ICT infrastructure with broadband facilities and trained manpower to all the Panchayats. Some of the activities undertaken are as follows:-

- Information & Services Needs Assessments (ISNA) for better service delivery.
- Business Process Re-engineering (BPR) for the services to be provided through PRIs.
- Preparation of Detailed Project Report (DPR) for enabling ICT.

*Workshop on e-PRI at Palamu*

## Major ICT Projects Implemented Successfully

**Computerization of Commercial Tax (VAT) :** A web based software has been implemented at the district commercial tax department. The software generates various types of reports for tracking the defaulters and in helping the authorities for recovery of dues.

**Computerization of DRDA and NREGA :** The computerization of DRDA and NREGA was achieved to provide greater transparency to the administration in the developmental schemes. A separate computer centre was established at District Rural Development Agency (DRDA) for monitoring various schemes. The

NREGA software has been functional at the DRDA centre for data entry and report generation. NREGA data is regularly uploaded on the site *http://nrega.nic.in*

**Jail Computerization:** Prisoners Management System (PMS) and Visitor Management System (VMS) software was implemented at the district Jail. This software helps the jail authorities is maintaining all the relevant details about a prisoner. The visitors are allowed to meet the prisoners after verification and issuance of pass by the VMS software. As a part of the jail reforms process, computer training of prisoner has been started in the district jail.

**GPF-CPG Computerization:** The GPF / CPF of all the govt. employees of the district are being maintained using the GPF/ CPF accounting software. The system maintains the subscriber details, their contributions, advances, refunds etc. and generates the necessary accounts with proper check.

**On line Treasury Information System:** A web enabled software - "Treasury Information System" (KUBER), implemented in the district, was one of the earliest software in G2G sector. The bill transaction, accounting process & MIS reports of the district treasury is prepared using the online software. Biometric authentication at the level of treasury officer has also been introduced to make the system foolproof. Banks are also connected for processing the bills fast.

**Transport Computerization:** The two modules of Transport System viz. Vahan & Sarthi are operational in the district. Vahan module takes care of registration of vehicles. The system also manages information related to tax validity & fitness. Sarathi module helps in issuing various types of licenses apart from driving school license to the applicant. The issue of registration certificate book and driving license on smart card was launched with great fanfare.

**Arms License Computerization:** Details of arms license issued by the district administration are being maintained through the customized software. The software generates reports like block wise, police station wise, year wise, arm licenses issued by the district administration.

**Consumer Forum Computerization (CONFONET):** The district consumer forum was computerized under the CONFONET project. The software also incorporates backlog entry of consumer cases. The case monitoring system records case details, judgments passed etc by the court. Cause list is generated and are uploaded on the website for the public.

**Videoconferencing Facility:** VC facility, established at the NIC centre, is used by various departments for monitoring developmental activities in the district. Video conferencing facility between the district court and Jail was also established for speedy trail of prisoners and has eliminated security issues, which existed earlier while shifting prisoners to courts.

*Hon'ble Justice , D.G.R. Patnaik, Jharkand High Court inaugurating the VC centre at District Civil Court*

**IT Training Centre:** A divisional level computer training center was established in the district for training government officials. Many officials were imparted project based IT training.

**Other Activites:** AGMARKNET- Daily transfer of data on *http://www.agmarknet.nic.in* from Bazar Samitees, Health Sector- Mamta s/w and IDSP project has been implemented in health sector, Social Security-Preparation of database for Old Age, Widow and Disabled Pensioners, Animal Husbandry- Computerization of cattle census taken up, Monthly MPR and PMGSY data entry on GOI website etc. *i*

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***Edited by:*** **Prashant Belwariar**

# International e-Gov Update

## Social Media enhancing G2C Service

ICT has long been recognized as a key enabler of enhancing the relationship between the Government & Citizens. Direct Delivery of Services to Citizens in the place of their choice, time of their convenience, participation of Citizens in Governance are some of the concepts being leveraged by democracies across the world to build better understanding of their citizens thus developing much more enhanced relationship with the citizens. One Stop Portals, Service Gateways are all efforts in the same direction. Efficiency, Effectiveness, Transparency are other aspects of Governance being improved and enhanced by use of ICTs.

Since last couple of years a new set of technologies such as Text Messaging, Second Life, YouTube, Facebook, Wikipedia, Tagging etc., are making in roads not only in our professional lives but our personal lives as well. Knowledge sharing, socializing or keeping in touch with friends, colleagues & family, new technologies of Web 2.0, more commonly known as Social Networking are making it all possible, encompassing all age groups right from school going kids to youngsters to professionals, home makers and even senior citizens.

Web 2.0 technologies offer a huge opportunity for governments to build relationship with its citizen, bringing paradigm shift in the process of governance. In this issue, International e-Gov Updates brings to light the countries that are at the forefront in using web 2.0 technologies to strengthen Government to Citizen (G2C) interactions.

### e-Petitions: United Kingdom


The Prime Minister of United Kingdom has had been receiving Petitions by post or delivered to the Number 10 door in person. Government of United Kingdom as a good move to make citizens keep in touch with the Prime Minister to share their thoughts, grievances, expectations etc., has introduced online e-Petitions.

An e-petition, a form of petition posted on a website either by individuals or groups allowing visitors to add their details in it to "sign" it. Citizens can now both create and sign petitions directly on the official site of the Prime Minister of United Kingdom at *http://petitions.number10.gov.uk/.* In fact, this podium gives the Prime Minister the opportunity to reach a potentially wider audience.

The system is more citizens centric where they can view the petitions either by deadline, size or start date. Citizens are free to send petitions related to Business, Education, Employment, Environment, Government, politics and public administration, Health, and many more.

### Have Your Say: Australia

The Australian Government is increasingly using the internet to provide a channel for Public Consultations on variety of issues concerning the nation, Prime Minister's Blog as an immediate way for government to inform and engage with the public and create communities of interest, and also Bright Ideas e.g. Australian Youth Forum inviting citizens to provide new ideas and perspectives on a specific subject or on any subject to assist government in developing policies and programs.

In this connection, Have Your Say *http://www.australia.gov.au/have-your-say* section of the Australian government website has been instrumental for the government in engaging directly and widely with the public in the development of

citizen-centered policy and programs. Thus, this platform proved to be a success in bridging the gap between citizens and the government resulting into an all round development of the nation.


## Stay Connected:White House

The website, *www.whitehouse.gov* is all about the White House and the Presidents of America. It aims at bringing government closer to the Americans. The site is designed for optimization of results rendering an in-depth analysis of Obama Administration's and Government's commitment to the citizens of America. It is an effort to expand public access to on-line government information and services, and give the American people the "Information Age" government they deserve.

White House allows Americans to participate in the reforms of the government directly through Blogs and a slew of social networking sites. These social networking platforms including blogs are a stepping stone between the citizens and the White House. The interactions between the President and the people can be made through comments and messages received and transferred through these sources. The site gives Americans quicker and easier access to the wide range of on-line information related to the White House and the Presidents of America.


## Promotion Portal:Argentina

The Government of Argentina in a move to make administration more citizens oriented, allows a host of social networking platforms for the citizens to share their thoughts, grievances, expectations, and others in the official websites. These social networking sites in return let citizens keep in touch with the government as well as fellow citizens through the exchange of quick, frequent answers to one simple question at *http://www.en.argentina.ar.*


The Argentina Government aggregates a gamut of links to government agency websites where citizens could input on a variety of subjects i.e. Education, Science, Culture, and others. Publication, Information, Advertisements, Notifications are floated through social platforms to make citizens aware of all the activities performed by the government. These platforms are expanding the government's outreach capabilities and ability to interact with citizens formally. Citizens in return are actively participating in the government's move to build Argentina a great nation. Thus, social networking platforms are enabling Argentina government for a successful citizen centric administration.

*Compiled by:* Informatics Team.

# Cyber Governance

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

## Department of Agriculture, Govt. of West Bengal *(http://wbagrisnet.gov.in)*


Department of Agriculture, Govt. of West Bengal, in its endeavour to promote and strengthen agricultural informatics and communications recently created a very visually pleasing website for their mission mode project "Agrisnet". The website promotes an excellent interface for G2C, G2B and G2G services with well structured information. The scope, circulars, services under Agrisnet project is categorized with quality content and inputs. Besides, the websites gives an insight view of soil fertility management, fertilizer, certification and quality control of seeds, plant protection, project monitoring and weather. Trainings are also imparted on regular basis to its stakeholders for better agricultural prospects.

## Department of Industries, Govt. of Arunachal Pradesh *(http://indarun.gov.in)*


Role of Industries in Arunachal Pradesh constitutes an important segment in the country's planned economy. The website from the Department of Industries, Govt. of Arunachal Pradesh, generates vital information on the District Industry Centres, Industrial Project profile as well as various areas for Industrial development. The homepage of the website imparts valuable information on the workflow of the department and acts as an online web guide providing a hawk eye view on its policies, HRD, infrastructure, funds and latest announcements. Last but not the least, the website also provides links to different financial agencies catering to financial support for developing the overall industrial infrastructure of the state.

## Department of Drugs Control, Govt. of Delhi *(http://drugscontrol.delhigovt.nic.in)*

The Department of Drugs Control, Govt. of Delhi regulates various aspects of the department from enforcement of various drugs laws to manufacturing to sales of drugs and cosmetics. The website of the department gives detailed information about the functioning and profile of the department. It is a user centric website where a drug manufacturer can obtain all the details of fees to be remitted for obtaining different kinds of drug certificates and licences from the department. With a simple and genuine navigation interface, the site is designed to assist its user to obtain information on zonal sales and manufacturing units operating within the state, licensed blood banks and approved drug testing laboratories.

## Orissa Bigyan Academy *(http://orissabigyanacademy.nic.in)*


The website of Orissa Bigyan Academy is a combined effort of devoted zest and zeal by a group of senior scientists of Orissa. The primary aim and objective in designing the website is to promote and popularize the ever increasing knowledge of Science and Technology amongst the masses so that scientific literacy and awareness could be engendered in the public domain that would serve the wider interest of the Oriya people. The websites keeps its user abreast of news & events, seminars, workshops, advertisements and awards received. A search engine is also present to find out the details about Oriya Scientists and their achievements by category and name. To become an active and life member of the academy, one can apply online.

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

# National Portal Update

Challenges always bring changes in attitude!!! With this mantra *india.gov.in* is marching ahead, making lives of India's citizen easier day-by-day. *india.gov.in* has been recently awarded at the eIndia 2009, under the e-Governance category for Government to Citizens (G2C) Initiative of the year.

*Ms. Neeta Verma, (STD) and Ms. Alka Mishra (TD) receiving the e-India 2009 trophy on behalf of india.gov.in.*

Launched in 2005, *india.gov.in* has given a new dimension in governing nations and enhancing citizen services by making the process of governance and public administration much more efficient and effective.

*india.gov.in* is an effort to provide the Indian citizens and other stakeholders with easy online access to government benefits and assistance programs as it promotes Government-to-All interface (G2A) encompassing fundamental interaction between Government to Citizen (G2C), Government to Business (G2B), Government to Employee (G2E) and Government to Government (G2G).

The Portal has been built from the 'users' or 'citizens' perspective, rather than from the perspective of the government. In other words, instead of presenting and categorising the information and services on the basis of government departments, information is presented in a manner citizens would like. This bilingual (English and Hindi) portal can be personalised by its users and follows a uniform navigation style.

*india.gov.in* is India's one of the most prestigious effort and has been sculpted by National Informatics Centre (NIC).

**Some of the major initiatives under the ambit of the National Portal are:**

- *http://bharat.gov.in:* The hindi version of the National Portal.
- *http://business.gov.in:* Caters to every intricacy required by the business community.
- *http://web.guidelines.gov.in:* Defines the guidelines for Indian Government websites, which have been adopted by DARPG for compliance in the websites of Ministries/Departments/States.
- *http://www.india.gov.in/cfw:* Guides on the Content Framework to be followed in order to ensure uniformity in access and seamless integration of services for the citizens.
- *http://egreetings.india.gov.in:* A dedicated portal to send e-greetings for Indian festivals.
- *http://spf.india.gov.in:* Provides guidelines, standards and architectural best practices to be followed for implementing and operating State Portals with respect to information/content, user interface and technology.

*india.gov.in* is a powerful tool that not only offers citizen services and information through a central point of access in cyberspace, but also offers downloadable forms, government documents, Legislative Acts/ Rules, services both transactional as well as informative through a unified and logically central portal. Presently there are about 7000 Documents, over 4000 Forms, approximately 1498 Services, 1357 Acts, 1033 Announcements, 996 Contact Directories, 825 Schemes and 815 Rules published on the Portal. The Portal has more than 55,000 registered users and gets over 27 million hits per month pour in from all corners of the world, which gives a clear picture of the popularity of the Portal.

*india.gov.in* embraces the Accessibility standards and evaluates the Portal on a regular basis, increasing the opportunity for all citizens to access information over the Internet and is maintained by professionals trained in the area of assistive and information technology. The Portal complies with W3C standards of WCAG 2.0 level A. With this *india.gov.in* ensures interoperability and uses best technical approach like use of mark-up language cascading style sheet, use of scripting languages etc. *i*

***Contributed by:*** **Alka Mishra,** Technical Director, NIC

# In the News

## Visit of Hon'ble MoS, Sh. Sachin Pilot at NIC-HQ

To have first hand experience of NIC's ICT-Potential for enabling IT-lead development of social masses, Hon'ble Minister of State IT, Government of India, Sh. Sachin Pilot visited NIC-HQ on Friday 25th September 2009. Brief presentation about the on-going live applications run by NIC; on nation-wide basis, was made through Video Conferencing by few State Centres and Heads of Division of NIC-HQ. During this visit, Hon'ble MoS had shown keen interest about those applications and suggested normative alignment of implementation strategies, for ensuring focused output which would be more relevant and meaningful for the masses.

Sh. Sachin Pilot was quoted saying during his visit, "Very impressive set of people and equipment which is making us all proud of NIC. My best wishes to the team."

*Hon'ble Mos Sh. Sachin Pilot presiding the meeting at NIC, along with DG Dr. B.K. Gairola and DDG Dr. Y.K. Sharma*

***Dr. Kashinath, DDG***

*Governor Himachal Pradesh launching the website*

## Governor, Himachal Pradesh, launches the Raj Bhavan website

Her Excellency, Smt. Prabha Rau, Governor of Himachal Pradesh launched the official website of the Raj Bhawan (Governor House) at Shimla. She told that web portal would enable the people to access official information, activities and important events taking place in the Raj Bhavan. The Secretary Governor House, Sh. Bharat Khera, IAS and Sh. Rajesh Bahadur, SIO, NIC were present on the occasion.

The Himachal Pradesh Raj Bhavan, housed in a 177-year old heritage complex, called the Barnes Court, had been witness to some momentous events like the Shimla Agreement between India and Pakistan signed in 1972.

The website has an exclusive collection of photographs, covering different facets of the heritage structure along with important events that had taken place here, including the 175th anniversary celebration of the Barnes Court.

The website has been designed and developed by NIC Himachal Pradesh and is accessible at *http://himachalrajbhavan.nic.in*

***Ajay Singh Chahal, Himachal Pradesh***

## Launching of Verbatim House Proceedings in Himachal Pradesh

Himachal Pradesh Vidhan Sabha became second state in the country on 4th August 2009 which was observed as 103rd Birth Anniversary of Dr Yashwant Singh Parmar, when Hon'ble Chief Minister of Himachal Pradesh Prof. Prem Kumar Dhumal formally launched the verbatim House Proceedings of Himachal Pradesh Legislative Assembly (unedited version) on Vidhan Sabha website at

*Launch of Verbatim House Proceedings*

*http://hpvidhansabha.nic.in.* Speaking on the occasion, he told that the facility will make the citizens aware of polices & programmes of the state government and also they will closely watch the issues raised by the elected representatives. He also informed that days' proceeding will be made available on the same day or by next morning.

He also thanked all the concerned for launching this facility. National informatics Centre, Himachal Pradesh has developed and implemented the solution to merge/compile day's proceedings and the web interface.

***Mukesh K Ralli, Himachal Pradesh***

*Hon'ble Chief Justice, Smt. Mishra (L), after inaugurating the VC facility,*

## VC Facility Inaugurated by the Hon'ble Chief Justice, between Civil Court and District Jail at Jamtara, Jharkhand.

The Hon'ble Chief Justice Smt. Gyan Sudha Mishra, Jharkhand High Court recently inaugurated the videoconferencing facility between Jamtara District Civil Court and Jail, in the presence of Hon'ble Justice Sh. Amrashwar Sahay, Justice N.N. Tiwari, District & Sessions Judge Sh. C.P. Asthana, Sh. Kripa Nand Jha, Deputy Commissioner and other senior officials. At the other end, Sh. M. Hussian A.I.G. Prisons, Government of Jharkhand was present on the occasion. He explained to the Chief Justice about the e -governance project under implementation with the support of NIC and gave other details about the District Jail, Jamtara.

The VC inauguration facility was preceded by the inauguration of the new Civil Court and Bar Association Building by the Chief Justice. Speaking on the historic occasion, the Chief Justice emphasized that only 'Truth Should Prevail' and called upon the Bar to help in the delivery of quick and timely justice. She also exhorted the advocates to remain updated in their profession.

The VC facility between the Civil court and District Jail was implemented by NIC Jharkhand under the e-governance project for the Department of Home (Jail), Govt. of Jharkhand.

***Prashant Belwarier, Jharkhand***

## Minister Agriculture Production J&K State, reviewed Department functioning of Districts through VC

Hon'ble Minister for Agriculture Production J&K, Sh. Jenab Ghulam Hassan Mir along with Principal Secretary Agriculture, Smt. Sonali Kumar reviewed district level department functioning through Video Conferencing on August 11, 2009. He addressed all the District Heads of Agriculture from VC Studio of NIC J&K Civil Secretariat Srinagar. All the Chief Agriculture Officers of 22 Districts have participated in this VC Session from the districts itself. The VC session continued for almost 2 hours. The minister appreciated the efforts of NIC for conducting it successfully.

*Minister Agriculture J&K, Sh. Jenab G.H. Mir addressing Districts Officers*

***Jit Raj, Jammu & Kashmir***

## Press Conference by the Hon'ble CM of Mizoram through Video Conferencing

Hon'ble Chief Minister of Mizoram, Sh. Lal Thanhawla had a press conference and media briefing using NIC's Video Conferencing facilities on August 14, 2009 with media people in all the districts of Mizoram. The press briefing was anchored by Sh. L.R.Sailo, Director Information & Public Relation. In a one and half hour meeting, the Hon'ble Chief Minister briefed the media on various ongoing socio-economic developmental projects/schemes in the state and vision of his government and invited suggestions from the media. The Chief Minister had one to one interaction with all districts answering the queries of the media on various developmental aspects in the state. In the meeting Director, Joint Directors of I & PR and Dr Vanlalzara Principal Scientific Officer, Science and Technology, SIO Mizoram and other officers were present.

It was first ever Video Conference held by the Chief Minister of Mizoram using NIC's Video Conferencing facilities. The Chief Minister also visited Network Operational Centre and Data Centre of NIC Mizoram and was pleased to see the infrastructure established by NIC in the state of Mizoram.

The VC Session was well supported by a dedicated team of NIC Mizoram and all DIOs of State.

***Lalhmachhuani, Mizoram***

*Chief Minister of Mizoram Sh. Lal Thanhawla attending VC*

*Election Module in progress*

## Election Module at LBSNAA, Mussoorie

Election Module was organised for IAS Professional Course Phase I (2008 Batch) at Lal Bahadur Shastri National Academy of Administration, Mussoorie during 23rd - 27th March 2009. The module was conducted jointly by NIC Training Unit and the Management Faculty of LBSNAA, Mussoorie.

The contents of the module were Overview of Project Management, Election Process Management, Introduction to MS Project and Management of Election through MS Project. The methodology of the module was Lecture, Lecture-cum-Demonstration followed by Hands-On practice on MS Project and Group Task on Management of Election using MS Project. The presentations were made by individual group of Officer Trainees and evaluated by NICTU faculty.

The members of the faculty who conducted the module were Sh. Alok Kumar, IAS, Dy. Director (Senior), Dr. B. Ashok, IAS, Dy. Director of LBSNAA and Sh. M. Chakraborty, Sh. Azad Singh and Sh. Amarjeet Singh Dutt of NIC Training Unit, Mussoorie.

***Manotosh Chakraborty, LBSNAA, Mussoorie***

## Hon'ble Chief Minister, Jammu and Kashmir inaugurates CM Grievances Cell

Hon'ble Chief Minister, J&K Mr. Omar Abdullah formally inaugurated the Chief Minister's Grievance Cell at Civil Secretariat Srinagar on 4th September 2009 there by creating an opportunity for the people of Jammu and Kashmir to register their complaints through online and get details about the status and nature of disposals.

*SIO, NIC Orissa along with Sh. Nihar Ranjan Biswal, SSA, receiving the Award*

Describing the cell an effective mechanism to entertain the complaints of general public, the Chief Minister said that people should receive the prompt, to the point and appropriate response from the cell. “The complainant should get all information about the status of their complaints, progress and the action taken”, he said adding that he would personally monitored the working of the cell regularly. He also appreciated the efforts of NIC J&K for developing & hosting of web based application for Online Registration and Monitoring of complaints on NICNET.

The people can personally register their complaints through the Community Information Centres (CIC) available at each block and get feedbacks about the same from these Centres.

The complaints received in the Grievance Cell shall be segregated, analyzed and transferred to the concerned departments for reply/action taken within five days. The reminder for the pending complaints shall go to the concerned on every

Monday. The information about the status, progress and action taken shall be available on the website or can be got from CICs or directly from the Grievance Cell.

***Jit Raj, Jammu & Kashmir***

## NIC won Awards for 'Excellence in e-Governance' in Madhya Pradesh


*Sh. Sunil Jain, TD, NIC receiving the award for 'IT for Masses' category*

*Sh. Vivek Chitale, TD, NIC with the award for excellence in e-Governance initiatives*

Department of Information Technology, Government of Madhya Pradesh has instituted excellence in e-Governance awards for e-Governance applications developed/ implemented in Madhya Pradesh. Recently these awards were given by Sh. Kailash Vijayvargiya Minister for Information Technology, Government of Madhya Pradesh and Chief Secretary Sh. Rakesh Sahni.

Education portal designed & developed by NIC Madhya Pradesh for Department of School Education and Tribal Welfare Department, was adjudged the best project fulfilling the objective - 'IT for Masses'. The portal facilitates the department to administer more than 1.10 lac schools, 3.5 lac teachers and monitor the competency levels of more than 1.60 crore students. The portal also acts as a sign-on for various process automation applications and facilitate a common platform for the dissemination of information and collaboration between departments and agencies working for school education.The product GeoAmpere, Geomatics based Application Model for Planning Distribution of Electricity to Rural Entities, implemented at Madhya Pradesh. Paschim Kshetra Vidyut Vitran Company Limited (MPPKVV Co. Ltd), Indore, has been selected for excellence in e-Governance initiatives.

Jabalpur and Sagar districts jointly received the award for 'Best e-Governed Districts in Madhya Pradesh' for developing and implementing various e-Governance applications in districts. NIC district centre in both the districts were instrumental in developing and implementing various e-governance applications.

***Santosh Shukla, Madhya Pradesh***

## Three Days Workshop on e-Granthalaya and NewsNIC Software for Automation and Networking of Libraries organized in Punjab

*Group Photograph of Participants*

A three days "Workshop on e-Granthalaya and NewsNIC Software for Automation and Networking of Libraries" was conducted during 21st - 23rd July 2009 at Malout Institute of Management and Technology (MIMIT), Malout, Punjab established by the Government of Punjab. The workshop was a part of 15 Days 'Staff Development Program on Library Automation, Networking and Digitization' sponsored by AICTE, New Delhi.

The workshop was conducted for the benefits of the libraries from Punjab which are using e-Granthalaya software for automation and Networking. The e-Granthalaya workshop attended by 29 library officers from various organizations and libraries

The Workshop was Co-ordinated by Dr. Iqbal Singh, Librarian, MIMIT while Sh. Ram Kumar Matoria, Technical Director, and Sh. Sushant Panigrahi, Scientist B, NIC, New Delhi conduced the workshop. The Participants were given exhaustive training/hands-on for use of various modules of the e-Granthalaya Software.

***R K Matoria, Technical Director***

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# Software Engineering: An instrument for inclusive growth, sustainable development and co-existence

*Apart from software architecture, software design and development, software engineering is a discipline for software developers and managers too. They practice it to deliver impeccable software service by some following some strict guidelines and applying engineering techniques within process frameworks inorder to create positive and exciting developments. Otherwise it becomes an impediment to progressive development.*

***Rajiv Ranjan***
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Globalization and technological revolutions have created huge demand for knowledgeable people in various domains. Moreover there is requirement for partnerships and collaborations too. Simplifying complexities is another big challenge to be tackled. Dealing with them requires a systematic and professional approach.

Software can either succeed or fail. When it succeeds, it implies that it meets the need of the people who use it. It performs smoothly over a longer period of time. It is easy to modify and even easier to use. It can also change things for better. And when it fails it means that its users are dissatisfied and it becomes error prone. It is difficult to change and even harder to use. This may happen due to the ignorance or avoidance of software engineering practices right from software development to meeting any change requirements. Software in itself has its inherent characteristics which are echoed in the statement by Mr. Howard Baetjer as:

> ***"Because software, like all capital, is embodied knowledge, and because that knowledge is initially***

***dispersed, tacit, latent, and incomplete in large measure, software development is a social learning process.***

***The process is a dialogue in which the knowledge that must become the software is brought together and embodied in the software.***

***The process provides interaction between users and designers, between users and evolving tools, and between designers and evolving tools [technology].***

***It is an iterative process in which the evolving tool itself serves as the medium for communication, with each new round of the dialogue eliciting more useful knowledge from the people involved"***

A systematic and constructive approach using appropriate methodology and technology can help. If not done systematically, it may lead to stress, mistrust, un-happiness and frustration that may adversely affect progress and subsequently retard our growth. Approach to software development is frequently adhoc. Although adhoc approach sometimes works for a small project but does not work for large critical projects.

Ideas and technological discoveries have been the driving engines for economic growth. And software has its profound impact on society and culture. We are all concerned with our future and we do seek to answer what risks might cause the software project to go awry? Change is our concern and how will changes in customer requirements, development technologies, target computers, computing environment etc. affect timeliness and overall success? We must also grapple with choices regarding methods and tools we should use, how many people should be involved, how much emphasis on quality is "enough"?

Basically we look forward for a positive and progressive development. This is achieved by way of a discipline that can scale up for large systems and that can be used consistently to produce high quality software at low cost and within a specified time. Managers and practitioners do alike recognize the need for a more disciplined approach to software development but they continue to debate the manner in which discipline has to be applied.

So a number of standards e.g. IEEE software engineering standards, ISO 9000 standards, SEI-CMM, CMMI, SPICE etc have been in use. They recommend about the application of a systematic, disciplined, quantifiable approach to the development, operations and maintenance of the software that results into repeated performance even with different people.

In this context we also have a number of guidelines, standards and frameworks. Some of them are e-Gov Standards, National Portal of India Content Management Framework, Guidelines for Indian Government Websites, IntraNIC, Quality and Documentation etc with an objective of system approach and their pervasiveness. Further standards for ICT applications are also in the offering. Regarding their implementation, idea is if a framework is complemented with meticulously designed in-built mechanism of finer details of rules and procedures within process frameworks, so that the triggering effects can ensure its automatic compliance. And it can become our day-to-day experience and that will work smoothly and transparently.

To achieve this do we require some sort of professional governance with management techniques or practicing of professional ethics will suffice? Whatever may be the choice, it requires rooting in personal experience. Let assets be created for re-use and minimize reinventing the wheel for the needed growth and change for sustainable development. Let innovative leaders nurture and develop the system but in a framework with configuration management in place. Let the practitioners focus on what they need to do to improve the human conditions at large. Let passion, compassion and mutual respect spread through system approach with progressive led developments and inclusive growth.

***Reviewed by:*** **Alka Mishra**
Technical Director
NIC HQ

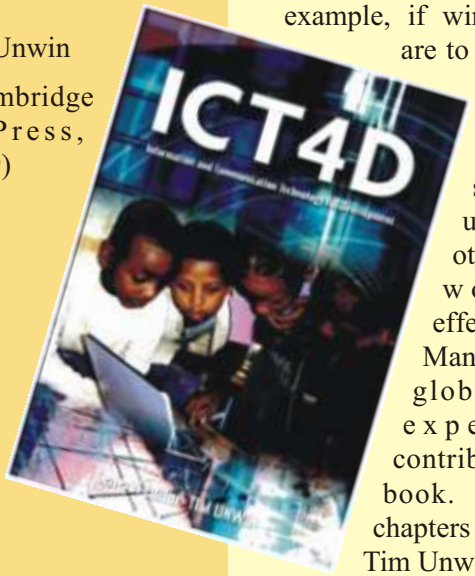
# ICT4D: Information and Communication Technology for Development

*ICT4D is all about how Information and Communication Technologies (ICTs) can be used to help the poor and marginalized people and communities and make a difference to their lives. The book provides an authoritative and accessible account of the use of ICTs in contemporary development practice. Tim Unwin, the author has incorporated the use of appropriate information and communication technology for development needs. The book seeks to combine theory with practical guidance - including both a conceptual framework for understanding the rapid development of ICT4D.*

**Title:** ICT4D: Information and Communication Technology for Development

**Edited by:** Tim Unwin

**Publisher:** Cambridge University Press, Cambridge (2009)

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ICT4D provides account of key areas where ICTs have been incorporated into development practices concentrating particularly on health, education, governance, enterprise and rural development. The practical intents of the book provide a critique of recent attempt to use ICTs in development so that those working in the interest of poor people and marginalized communities can use these insights for empowerment.

The organization and structure of the book is shaped around practical dimensions. Boxed case studies provide detailed examples of issues and initiatives from a variety of countries and organizations. To understand different terminologies and agendas adopted in multidimensional field of ICT4D, authors have tried to provide distinct vocabularies, style of discourse and practical agendas in both the fields of ICT and development practices. For example, if wireless technologies are to be used effectively in delivering rural health services, it is important that such people understand each other and are able to work together effectively in teams. Many people with their global insights and experience have contributed within this book. Majority of the chapters and ideas are by Tim Unwin (UNESCO Chair in ICT4D and Professor of Geography at University of London). There are authenticated data, table and figures available reproduced with permission of ITU.

The book is divided into two parts, Part-1 is for 'Contextual framework' and Part 2 is on 'Practical application' with 5 chapters in each part. Each chapter consists of many references useful for further reading. The ICT enterprises and its development, E-government and e-governance with ICT in Rural, Health and Education, the key issues in the field of ICT are given in reader friendly commentaries of relevant areas.

ICTs are becoming increasingly significant in making a difference and improving the impacts of development practice. However, ICT4D projects in Africa, Asia and Latin America have not always been as effective as their proponents had hoped. This book explores both the successes and the challenges facing such initiatives and provides clear recommendations for how they can be developed in more sustainable ways for the benefit of poor people and marginalized communities.

There are similar books available on the topic like (i) Information & Communication Technology In Development Cases From India by S. Bhatnagar (2000), (ii) Information Technology And Development by M. Lakshmi Narasaiah (2004) (iii) Information Technology and Development by Arun Baweja (2000), etc. But this title ICT4D is the latest sketch on the topic published in 2009.

ICT4D is essential reading for everyone involved in planning, designing, policy making or implementing ICT4D initiatives. Information on this title is available at *http://www.cambridge.org/9780521712361*.