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Informatics

HP Telestroke
HOT DAK Tracking System
E-Dashboard for Elections
e-Seed

Bhavishya
Mobile Governance In Bihar
System for Debt Redemption Scheme
Single Window Clearances System

DC*Suite
ICT Shines in The Sun City
District Patna
District Sirmaur

oAuth Based Single Sign-On
Dark Net
Centralized Antivirus Management

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EDITORIAL

Today, Information and Communication Technology intervention has become inevitable to our everyday modern life. At many instances without its support, life goes almost stand still. In the field of medical sciences and researches, ICT has proliferated incredibly deep enabling innovations in life saving devices and applications, which are put in use even at the remotest of villages.

One of the key focuses of Government is citizen health and medication. Though many challenges still exist in providing the best of services, the positive aspect is that many of the challenges give way to opportunities. 'Telestroke', the innovative application sets an example for the wise saying- 'need is the mother of invention'. Dr. Purnima Chauhan, IAS, in our guest column writes on this application developed for Himachal Pradesh.

We have a number of interesting articles on the latest e-Governance applications developed by NIC which includes mobile Apps. Mobile Governance in Bihar, HotDak tracking system, eDashboard for Elections, eSeed, Bhavishya, System for Debt Redemption Scheme, Single Window Clearance System and DC*Suite are covered in the eGov Products and Services section.

In the Technology Update covers oAuth based single sign on in MyGov, DarkNet, the hidden side of web and Centralised Antivirus Management of NIC. The District Informatics covers the districts Patna & Sirmaur and Computerisation of Jodhpur Development Authority.

I hope you will find this Issue useful. Please do write to us on how you feel about the magazine. It can be your feedback on the articles or suggestions on the magazine as a whole. If you feel the presentation can be made even better, please do let us know how.

Happy reading.

EDITOR

Please send your input/ contribution/ feedback to Informatics State Correspondents or directly to the address below:

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सत्यमेव जयते

Neeta Verma
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Digital India is a landmark programme of our Government. A number of initiatives have been taken up by the government and private sector under the ambit of Digital India. These initiatives have in one way or other touched the lives of people throughout India, across varied demography.

NIC has been associated with a number of Digital India initiatives which include MyGov, eHospital, Scholarship Portal and Soil health card, to name a few. The National Cloud set up by NIC is also hosting initiatives such as Digital Locker and Skill India to truly support the objective of empowering the citizen. The Public Financial Management System and Land Records System have also been ramped up their features and functions to provide enhanced citizen services.

Government functioning is being streamlined through widespread roll out of programmes like e-Procurement and e-Office. With a rapid increase in the number of departments and organizations coming on board, these services have become the means for government to enhance internal efficiency, transparency and responsiveness.

This is an exciting time for all of us to be part of the change in the way government is functioning and support these digital initiatives for streamlining internal processes as well as support effective, efficient and multichannel delivery of government services to the citizens and truly empower them!

- Neeta Verma

CONTENTS

HP Telestroke Mobile App

A Boon For Stroke Patients

The HP Telestroke, Android based Mobile App, developed for the citizens, 108 Ambulance personnel and Doctors is proving a boon to the Stroke patients in the State saving lives and educating the masses about the action to be taken in case of such a stroke. The Mobile App has been developed by the National Informatics Centre, Himachal Pradesh on the initiative of Sh. Vineet Chawdhry, Additional Chief Secretary (Health), in collaboration with Dr. Sudhir Sharma, HoD, Neurology, IGMC, Shimla. The App helps in internal communications and record keeping, besides creating awareness among the citizens.

WHAT IS STROKE?

Stroke has emerged as a second biggest killer of mankind world over and even in India more people die of stroke than infectious diseases like tuberculosis. Age adjusted stroke prevalence in India ranges from 84 to 424 per 100,000 according to various studies and annual incidence ranges from 105-262/1,00,000.

There is no data available from Himachal Pradesh but it is estimated from national statistics that HP should have 15,000 to 20,000 patients of stroke and every year 5000-10,000 new patients suffer stroke. This number is bound to increase with increased life expectancy and aging of population. After a stroke, about 50% patients do not survive beyond 6 months and 25% become dependent for life. So not only mortality but morbidity due to stroke is also overwhelming.

TYPES OF STROKES

Hemorrhagic stroke- one caused by rupture of brain blood vessels

By
DR. PURNIMA CHAUHAN, IAS

Ischemic stroke- caused by blockage in brain vessels

A CT-scan of head can reliably differentiate between the two. Ischemic stroke is much more common and amounts to up to 80% of all strokes.

SYMPTOMS

The common symptoms of stroke are sudden appearance of deviation of face, weakness or numbness of limbs, difficulty in speaking, unsteadiness, giddiness and headache. The simplest way to treat ischemic stroke would be to remove the blockage in brain vessels and now the drugs are available which can dissolve the clot blocking blood vessels. However, this drug which is an injection called recombinant tissue plasminogen activator (tPA) can be given within 4.5 hours of onset of stroke symptoms. Therefore it is most important that people recognize stroke symptoms at the earliest and rush to hospital with CT-Scan facility and availability of this drug.

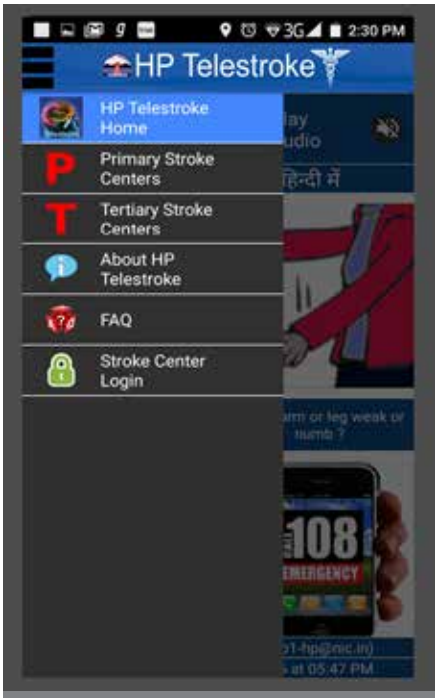
THE INNOVATION & CAPACITY BUILDING

Himachal Pradesh Telestroke innovation lies in the intelligent convergence of Internet and mobile telephony for a swift medical response at the nearest health facility within the 4.5-hour window after stroke happens. Since its inception in March 2014 HP Telestroke has saved more than 100 stroke patients up to January 2016 through 17 health centres in Himachal Pradesh. These health centres have fundamental equipment like a CT scan, ECG and blood sugar testing.

Himachal Pradesh is a hilly State in the Northern part of India. Covering an area of 55,673 KMs (34,594 miles), it is a mountainous state with a population of 69 Lakhs, majority of who live in villages. The State has two tertiary care hospitals with four Neurologists, two in each hospital. So given the difficult terrain and just four Neurologists, delivering stroke treatment seemed like a distant dream.

DR. PURNIMA CHAUHAN, IAS
Secretary (Administrative Reforms)
Government of Himachal Pradesh

Under the guidance of Stroke Specialist, Prof. M.V. Padma, All India Institute of Medical Sciences, New Delhi and on the initiative of Additional Chief Secretary (Health) to Government of HP, Sh. Vineet Chaudhary, a Telestroke Project was envisaged. All the government hospitals with CT-Scan facility were roped in. Out of 17 such hospitals, eight and nine centers respectively were attached to each of the two tertiary care centers. Workshops were conducted at various district hospitals. Medical officers in these hospitals (M.B.B.S. graduates and in-



User Interface screen of HP Telestroke Mobile App

ternal Medicine postgraduates) were trained in recognizing stroke through these workshops. They were taught reading plain CT-scan head to rule out hemorrhage even without the help of radiologist and written protocols for thrombolysis in ischemic stroke with explicit inclusion and exclusion criteria were provided. Blood sugar and ECG were only other investigations to be done apart from CT- head before thrombolysis. Tissue plasminogen activator was made available at all these centres and provided free of cost through hospital pharmacies. All the four neurologists were made available on phone 24x7. These hospitals were then designated as primary stroke centres. Without any extra infrastructure requirement or any new manpower the project was finally launched in May-June 2014 amid much skepticism about its success.

Review demonstration of the HP Telestroke Mobile App

Till now, more than 140 patients had received thrombolysis under Telestroke project out of which 60 patients were treated at primary stroke centres. During the same period in Indira Gandhi Medical College, Shimla, which is the biggest tertiary care centre of H.P., 45 patients received thrombolysis. This showed that the primary stroke centres provided treatment to more stroke patients and the difference is bound to widen even more in the future.

MOBILE APP FEATURES

The HP Telestroke, the Android based mobile app, is one more effort in making early stroke treatment available to patients in time and can be downloaded from http://himachal.nic.in under the link "Mobile Apps" or from Google Play Store.

For Doctors:

- Advance alert of patient being brought into the Stroke Centre
- Brief information of the patient/ symptoms
- Feature to add additional patient information after treatment for follow up purpose/ data collection
- Ready availability of information about facilities available in other Centres, in case of referrals

For 108 Ambulance Services:

- On receiving a Stroke victim call, nearest equipped stroke treatment centre for the patient is identified through the App and the doctors are alerted
- GPS based navigation to the ambulance driver/ citizens
- Feature to add basic patient data for the doctor

For Citizens:

- Complete information about stroke, available in offline mode Audio, Video, Graphics based messages
- Information about availability of doctor, medicine, CT Scan facilities
- How to avoid strokes and what do in case of a Stroke

Shri Vineet Chawdhry, Addl. Chief Secretary, Health, Govt. of HP, Dr. Purnima Chauhan, Secretary, Administrative Reforms, Govt. of HP and Dr. Sudhir Sharma, HoD, Neurology (IGMC, Shimla) with the eHealth initiative Award & Citation declared at eLETS PUNJAB SUMMIT 2016, Chandigarh

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HOT DAK Tracking System

Tracking of High Priority References Made Simple and Quick

HOT DAK Tracking System was conceived and developed for online tracking of important and High Priority References across the Offices to monitor and achieve timely disbursal of References. It is a simple and effective system to monitor the disposal of important communications with proper automated follow-ups.

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Tracking of important communication is one of the most important ways to develop a strong grip over the functioning of any office. In all Government offices, a large quantity of DAK (correspondence) is received every day. These DAK/ References may contain directions, orders, important instructions and clarifications or could also seek important information and comments. The DAK is supposed to flow down the hierarchical pyramid of the office with the Head of the office directing it down to respective branches/dealing hands.

Since the quantity of the DAK remains usually high, it becomes very difficult for the concerned officer to effectively track the progress being made in dealing with each communication (Hereinafter, known as PUC, or the Paper Under Consideration).

Once the particular PUC has been read and marked down to the particular branch, it is almost left to the efficiency of the concerned dealing hand as to when the file will be presented before the officer for decision. As much as it is possible for the officer to record the PUCs that need to be monitored on priority, it does not help the cause of institutional memory. A newly appointed person has little or no idea of which PUCs need urgent personal attention.

Furthermore, a system of continuous review, which systematically records the progress achieved or not achieved and for the same reason, becomes very difficult to maintain physically in a non-digitised format. Another drawback of the conventional system of dealing with the DAK is the huge time lags in the physically transmission of a particular PUC from the stage of marking to the branch. Quite often, the chances of DAK getting lost also arise. Similar PUC/ File processing systems require huge infrastructure, training and supports costs and are difficult to implement in smaller offices. It is simple but effective system to monitor the disposal of important communications with proper automated follow-ups.

> "The adoption of Hot Dak Tracking System in many offices, gives me immense satisfaction that the software has proved its utility"
>
> **ROHAN CHAND THAKUR, IAS**
> Deputy Commissioner, Shimla

Shri Rohan Chand Thakur, IAS, reviewing the PUCs online

Screen shot of the Hot Dak Tracking System displaying status of PUCs

OBJECTIVE

HOT DAK Tracking System was conceived and developed with an objective of online tracking of the important and High Priority References across the Offices to monitor in order to achieve quick disbursal of references.

PROCESS WORK FLOW

The important PUC is marked by the authority and entered into the computerised system along with uploading of the scanned copy (in PDF format) of the letter. This PUC may be marked to one or more officers/officials with brief directions and target date. A PUC may be marked to more than one respondent if required with individual target dates.

As soon as the record is saved, scanned copy of the PUC along with the necessary details and desired action appears in the electronic dashboard of the responding user/s. For quick perusal, the pendency dashboard is colour coded for target dates beyond three days, within two to three days, last day or already elapsed.

The dealing hands enter the status on the action taken on the reference in the system itself, which is visible to the Head of Office. If required, a scanned copy of the action taken/reply letter can also be uploaded in the system.

Based on the comments of the dealing assistants, which are reviewed at any time or in the periodic meetings, the Head of office may give further directions or simply record the progress made. The directions, reminders can also be sent to the multiple users at a time. The office Head may also order the PUC to be considered disposed-off if the action taken is to his/her satisfaction.

Shri Vinod Kumar, DIO- Hamirpur receiving the PC Quest Best IT Implementation Award 2016

IMPLEMENTATION

The Hot Dak Tracking System is a collaborative effort of District Administration Hamirpur, Himachal Pradesh and National Informatics Centre, Himachal Pradesh. The concept of the system was conceived by Sh. Rohan Chand Thakur, IAS, the then Deputy Commissioner. NIC District Centre Hamirpur, HP, further developed the system.

The application was primarily developed for Deputy Commissioner Office Hamirpur. After successful implementation, it was further implemented in other Deputy Commissioner offices in the state and Governor Secretariat, Himachal Pradesh.

The post implementation results of the Hot Dak Tracking System effectuate the intentions behind it. This has not only brought a quantitative change in the disposal of the references but also brought a qualitative change in the delivery system. It has brought transparency, efficiency and a healthy competition amongst the peer groups.

WAY AHEAD

The present application is robust enough to provide a healthy system of tracking the sensitive and important matters. Still a good scope is there to strengthen up and bring more functionality to it. The qualitative change brought in disposal of the references and the overwhelming response shown by all the users and higher authorities at the State level has encouraged us to make this application more user friendly and broaden its scope. The key enhancements include: Generic Version - to bring different Departments onboard a single application, SMS & Email Integration - to generate auto alerts and a Mobile App so that users may harness the potential of the mobile technologies and work in their comfort zone.

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E-Dashboard for Elections

Haryana's Indispensible Route For Monitoring And Enabling Transparency In Polling

e-Dashboard is a web based online application which was launched by Haryana during the 5th general election for Municipalities of ULBs. Developed and successfully implemented by NIC Haryana, this application enhances transparency in the entire election process and has evolved to be used as an integral and generic application that can be used for similar time-bound events providing vital data

Edited by
VIVEK VERMA

Monitoring and transparency of data are critically important for any election process. The State Election Commission (SEC) of Haryana in collaboration with National Informatics Centre (NIC) Haryana has introduced and successfully implemented an efficient web-based application called 'e-Dashboard' - http://mcelections.nic.in during the 5th Municipal General Election-2016 held in Haryana. This online application facilitates provision of election specific vital information and monitoring of electoral data. e-Dashboard has become an integral part of the election process replacing all the conventional monitoring and communications systems used.

OBJECTIVE

A number of communications and monitoring tools and technologies are required for the election processes in our democratic system for conducting election in a free, fair and transparent manner. In traditional systems, such process were held with limited and restricted resources such as phones, telecommunications system/ Fax/ E-Mails for fetching and disseminating information amongst the state level to the field level election functionaries. Using such traditional communications means, there involved time delay, access issues and difficulties in manual compilation procedures, which are prone to errors and gapes. To overcome such issues NIC-Hisar (Haryana State Centre) has developed and implemented an online & live e-Dashboard for the 5th Municipal General Election 2016 recently at the State of Haryana. Election was held for various municipal councils and committees of the State. The application has been hosted at server of NIC-Haryana State Centre, Chandigarh.

"e-Dashboard, being an automated real time monitoring system, has enhanced a great level of transparency in the entire election process. Efficiency can be improved to a great extend with the use of such ICT enabled solutions for elections. I am hopeful that e-Dashboard shall turn out to be a generic application for other similar events having critical and fixed time lines, become a contender for many other such applications developed across the country.

I convey my appreciation for the innovative work done and dedication of the team of National Informatics Centre, Haryana"

RAJEEV SHARMA, IAS (Retd.)
State Election Commissioner, Haryana

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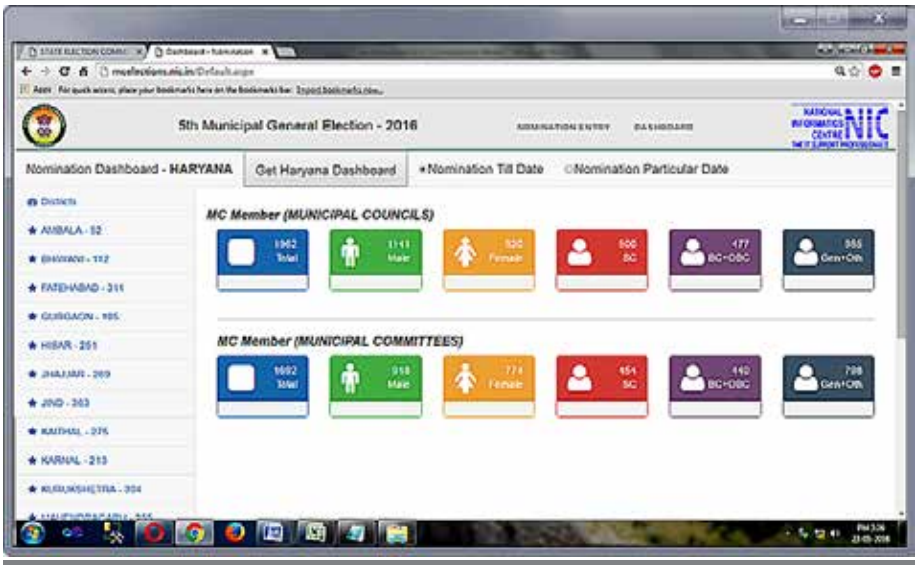


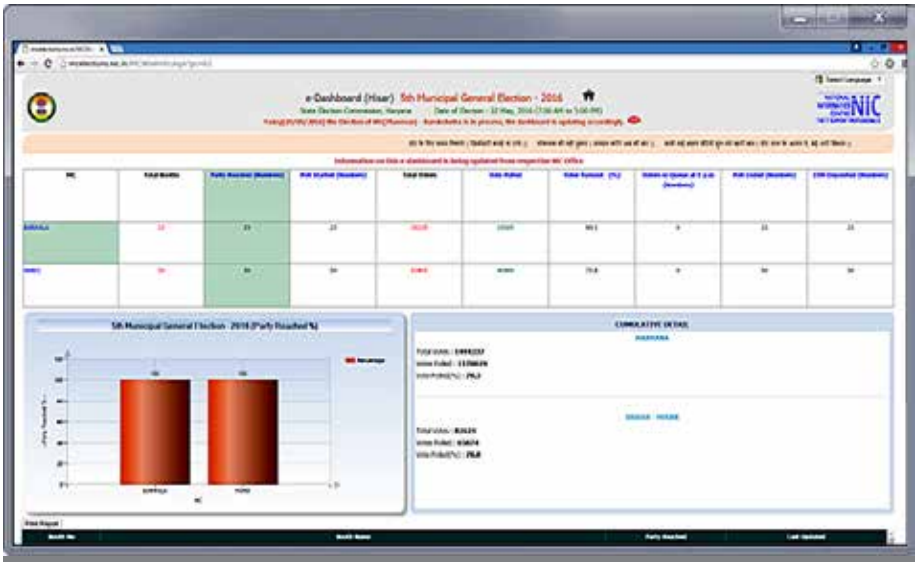
e-Dashboard's Municipal General Election user interface

National Informatics Centre, Haryana and the State Election Commission, in a joint collaboration has conceptualized that all the processes of election i.e., from nomination to declaring of the winning members of Municipal Councils be automated by deploying an efficient online web application with a frontend Dashboard. In the process, it was conceptualised that data of each of the candidates with all credentials be captured while filing of the nominations. Ushering the database of nominated candidates the result declaration be done as by product from the repository of the data of contesting candidates. It was further decided that the online Dashboard for nominations be launched initially, followed by Poll monitoring Dashboard which should be embedded with the declared results from the contesting candidate's dashboard.

e-Dashboard for Nominations – The backend database has a provision of capturing nomination details with complete credentials of candidates submitting nominations for Municipal Councils and Municipal Committee. The various parameters captured are: Name of the Municipal Council, Ward number, Name, Father's/ Husband's name, Address, Gender, Marital status, Blood group, Occupation, Mobile number, Date of birth, Caste, Educational qualification, Aadhaar number etc. Data is fed at the Municipal Council/ Municipal Committee and District level. Nomination dashboard displays the information of the all nominations filed.

Nominations details are uploaded directly from the concern Municipal Council/ Committee and information is used by the respective Returning Officer, Deputy Commissioners in District and State Election Commissioner at HQ for dissemination of information to media and the public under the same URL. An URL link to the dashboard has also been provided at the SEC Haryana site.

e-Dashboard for Poll Process and Results - Another dashboard was launched for poll monitoring and declaring the winning members (Municipal Council wise) on the same day of completion of the poll. The e-Dashboard was populated directly under the supervision of the Returning Officers of respective Municipal Councils. The Master data of each booth such as name of booth, number of voters etc. was entered by the concerned Municipal Council/ Committee. All the pre-poll and poll day activities such as reaching of the Party at the designated booth, establishing of the booth, starting of poll, poll percentage i.e. voter turnout, voter in queue at 5:00 PM, end of polling, result of winners and EVM deposited after the end of polling. All these parameters were updated at the dashboard in real time, dynamically from the concerned Municipal Council/ Committee.



Municipal Council/ Committee-wise Election Data on eDashboard

Continued on Page 41

e-Seed -
The One Stop, Non-Stop Aadhaar- Enabled Seed Distribution System Of Andhra Pradesh

e-Seed fetches land holdings information of each farmer from webland database, based on his/her Aadhaar number to decide seed eligibility. Ration card number and associated units are sourced from e-PDS database pertaining to farmer's Aadhaar to enable any family member to collect the seed.

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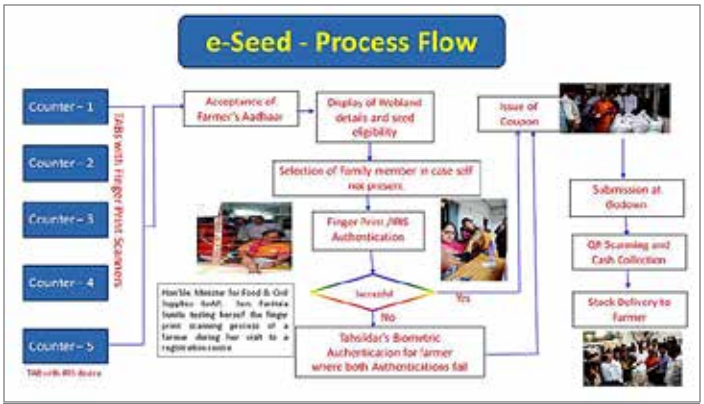
Groundnut is the primary crop sown in the district of Ananthapuramu due to the nature of its soil and weather conditions. Farmers face extreme challenges in cultivation due to continuous drought in the past 15 years. Government, as a relief, supplies seeds to farmers on subsidized rates. The groundnut seed being costlier comparatively, the subsidy portion is high. Thus, the distribution of groundnut seed has never been easy for the administration in the manual system.

As a general condition, a farmer can draw seed only one time as per his/her eligibility. However, the farmers can have lands in various villages and hence can have more than one pattadar passbook. Famers face difficulty for drawing seed and at times, seed may even get exhausted even before reaching their hands. Due to lack of proper controlling systems, middlemen divert the seed in large quantities, causing non-availability of seeds to eligible farmers. These also result in disturbed situations, causing law and order problems. Further, the stock position is never made readily available for any reconciliation. Thus the supplying of seed on subsidy posed several challenges costing government's exchequer to a considerable extent.

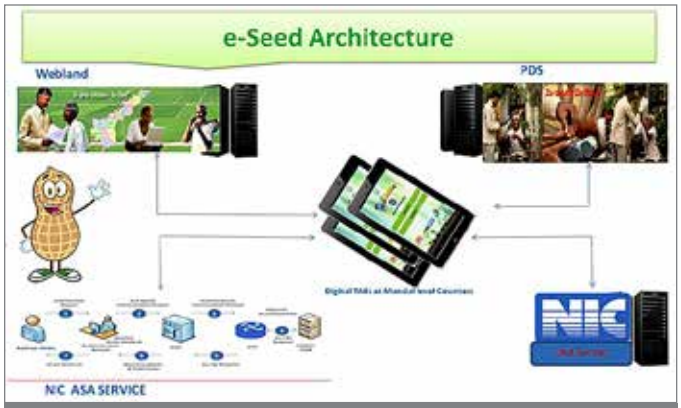
> "The most complicated issue of seed distribution was handled very efficiently to the utmost satisfaction of the farmers with an in house developed app and NIC services"
>
> **KONA SASIDHAR, IAS**
> Collector & District Magistrate
> Ananthapuramu District

INTRODUCTION

To overcome the difficulties faced in the manual system, the Collector & District Magistrate of Ananthapuramu desired to use a state-of-art technology to ensure proper stock maintenance and distribution of seed to genuine farmers. Accordingly, DIO (NIC) was asked to design a suitable system that shall ensure distribution of seed to all eligible farmers using Aadhaar enabled biometric authentication.



Process flow of e-Seed



e-Seed Architecture

THE PRESENT SYSTEM

As per the requirements, the web-enabled application has been designed to capture the details of stock movement from supplying agencies along with vehicle numbers, delivery challan details and quantity of stock contained in the truck. On receiving the stock, Mandal Agricultural Officer (MAO) takes the photograph of the vehicle to enable authorities tracking the proper movement of vehicles. The MAO simply accepts the stock supplied and authorized to detain or reject certain stock as per quality of the stock. MAO is responsible for maintenance of the stock on day to basis. The system ensures real time maintenance of stock receipts and balances till the lowest level of mandal godowns.

Ananthapuramu is the first district in the Country to design, develop and implement such a seed distribution system

To ensure proper distribution of groundnut seed, it was decided to use digital tablets at mandal level for implementing Aadhaar enabled biometric authentication. An android-based App was developed for issuing coupons and delivering at godowns.

e-Seed system fetches land holdings information of each farmer from webland database based on his/ her Aadhaar number to decide seed receiving eligibility. Ration card number and associated units are fetched from e-PDS database pertaining to farmer's Aadhaar to enable any family member to take the seed. The Aadhaar authentication is ensured through NIC ASA (Authentication System Agency) service, which is being used for the first time in the state. On giving fingerprint or iris for the Aadhaar, the service checks with UIDAI server and verifies the biometric information. Once the authentication is successful, the coupon is issued to the farmer containing the eligible quantity, subsidy portion, total price and price payable by the farmer. Coupon also contains unique number encrypted in QR image. Farmer presents the coupon at godown point to lift the seed. At godown, the QR image on the coupon is scanned and the number is automatically populated. The operator verifies the number, accepts cash payment and delivers the stock to the farmer. On confirming the delivery, stock details are automatically updated at server.

FEATURES OF THE SYSTEM

- The system is designed to work with available 2G/3G connectivity at mandal level.
- BSNL Broad band facility with local modem has been provided at mandals where no 2G/3G connectivity is available, so that the digital Tablets can be connected through Wi-Fi to Internet.
- High security coupons with hologram, QR image are printed with unique coupon numbers for distributing the seed.
- About 5 to 8 counters have been established in each of 63 mandals where one counter is identified to authenticate farmers using iris in case of Biometric Authentication failure.

Hon'ble Minister for FCS, Smt. Paritala Sunita examining the seeds during the inauguration of the system along with District Collector, Shri Kona Sasidhar, IAS and Shri PV Srirama Murthy, Joint Director of Agriculture

Hon'ble Minister for IT & Cinematography, Shri Palle Raghunadha Reddy during the inauguration of eSeed system at Puttaparthi on May 19th 2016. Joint Collector- II and Revenue Divisional Officer were present on the occasion.

- Tahsildar authentication of farmers facilitated where both biometric and iris authentication fails.
- At godown point, existing 2G/3G connectivity is used to upload the delivery details.

ADVANTAGES

- Only genuine farmers can draw the seed.
- Total land held by the farmer in the district fetched into the system enabling him/her availing the seed at a single instance as per eligibility.
- Alert messages are displayed in case of farmers not having land in the district or drew the seed already at any other mandal.
- Real time monitoring of stock movement
- Misappropriation or unauthorized lifting of stock completely avoided
- Peaceful conduct of seed distribution using the technology
- As district is taken as a unit, farmer can take the seed at any centre.
- Real time availability of stock position enabling proper planning of stock positioning.
- Reduction of subsidy cost to government over a period of time.
- Other decision support reports like category wise, acreage wise farmers availed seed
- Real time information is made available in CORE Dashboard of Honorable Chief Minister of Government of Andhra Pradesh.

IMPACT

- 3,10,318.20 lakh quintals of groundnut seed distributed across the district within a period of 25 days to 3,53,114 lakh farmers.
- Bogus Pattadar pass books and Double benefit eliminated.
- Middlemen and Recycling of stocks avoided.
- Hassle free and user friendly system.
- No long queues at any point of time
- All eligible farmers covered
- Very positive response from Media/ Farmers/ Public Representatives

HIGHLIGHTS:

- e-Seed was quickly scaled up for Aadhaar enabled DBT of all agriculture inputs for the welfare of farmer (D-Krishi).
- The successful implementation of the system prompted the Director, Agriculture, GoAP to plan the roll-out of e-Seed project to the entire State for all the seeds from Rabi Season 2016 onwards.
- The details of the seeds to be supplied, subsidy portions and other procedures are being obtained for customizing product if required.

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Bhavishya

Online Pension Sanction & Payment Tracking System

Pension Sanction and Payment Tracking System developed by NIC ensures timely issuance of Pension Payment Order (PPO) and disbursement of retirement benefits by capturing the requisite data online from stakeholders, sharing data with existing applications, incorporating CCS Pension Rules, Extra-ordinary Pension Rules and Commutation Rules

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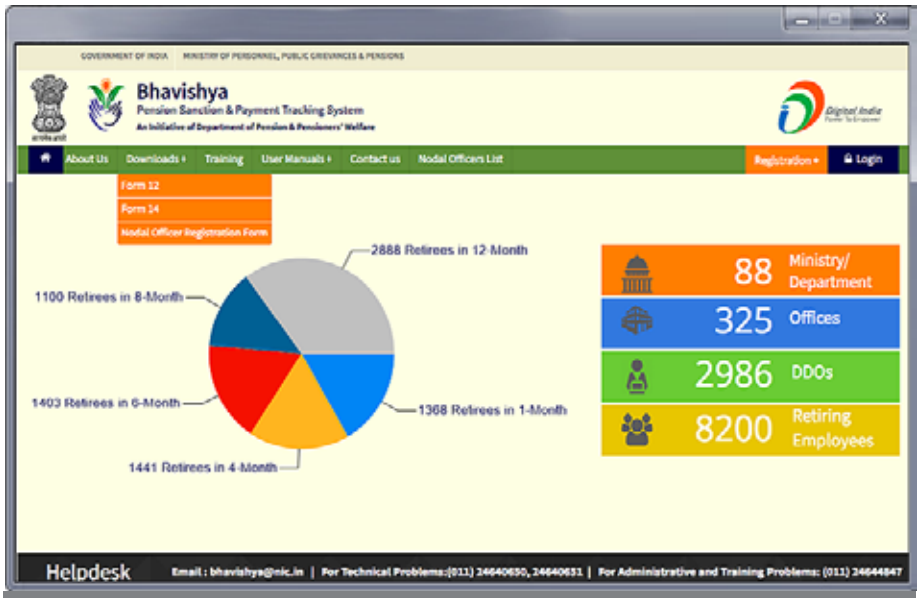
Pension MMP, a Mission Mode Project under the National e-Governance Plan (NeGP) was envisaged to safeguard the benefits of pensioners and enable them to garner the benefits of e-Governance. The primary objective of this MMP is the redressal of Pensioner's grievances besides providing them information and guidance concerning pension and retirement related matters with great ease.

To bring transparency and establish accountability in the pension sanction and payment process 'Bhavishya', an online Pension Sanction and Payment Tracking System is an integral part of the Pension MMP has been launched by the Department of Pensions & Pensioners' Welfare. This system provides for online tracking of sanction and payment processes by the individual as well as the administrative authorities and will help eliminate delays and bring satisfaction to the retiring employees and pensioners. Bhavishya captures the retiring employees personal, service particulars and



Screenshot of Bhavishya portal homepage

information required for processing of pension cases like Bank account details, percentage of pension to be commuted, nominations, family details etc. The system automatically generates the required pension forms (Form 1, 3, 5, A, FMA) and Bank undertaking letter. The submission of the forms by the retiree and other due diligence can be done online, and the retiree can monitor the status of his/her pension case. Bhavishya keeps retiring employees informed of the stage their pension sanction is at, and the progress it has made as well as every action due and performed by the stakeholders through SMS and E-Mail till the Pension Payment Order (PPO) is furnished. After the issue of the PPO, the Head of Office can print 'Pensioner's Identity Card' made of plastic. The system obviates delays in payment of pension by ensuring complete transparency.

Bhavishya will also be extant to employees even after retirement so that they can avail the service to monitor the status of credit of first and the subsequent pensions.

OBJECTIVES

- IT supported mechanism to facilitate and smoothen the process of sanction of pension. It should also allow the monitoring to go forth at both the level of the concerned Ministry/Dept. and at the level of the individual retiring employee.
- Timely and accurate payment of retirement dues and timely disbursement of first and subsequent pensions.
- Promulgate among the stakeholders every action due as well as performed.

- Keep the retirees informed about the progress of their pension sanctioning/ authorization process.
- Department(s) can effectively monitor the whole process by manoeuvring through this software only

COVERAGE

- Individual (Central Government Civil Retiring Employees & Pensioner)
- Drawing & Disbursing Officer (DDO)
- Head of Office (HOO)
- Head of Department (HOD)
- Pay & Accounts Office (PAO)
- Directorate of Estates (DoE)
- Central Pension Accounting Office (CPAO)
- Controller of Accounts

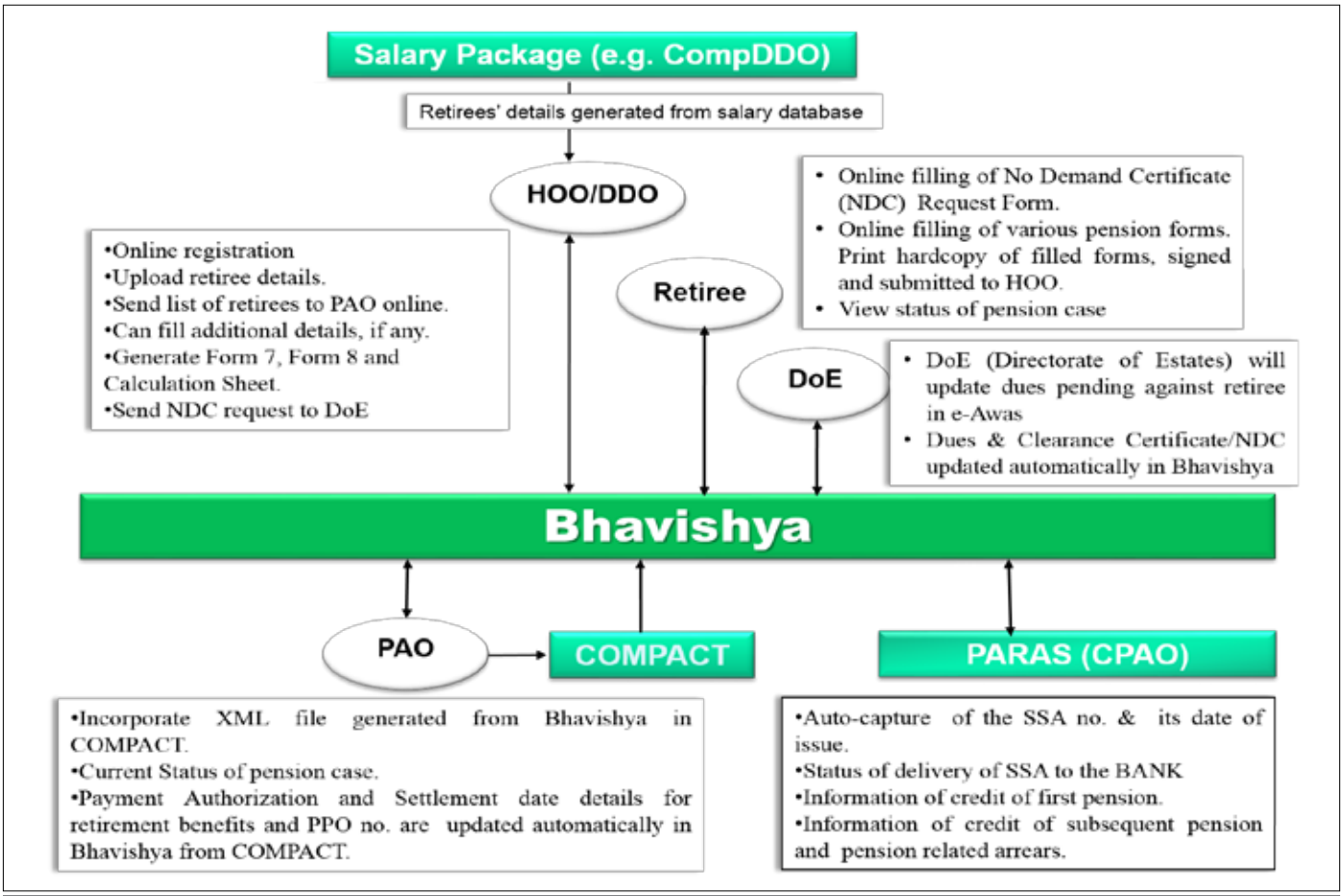
FEATURES

- Exchange data with various packages like CompDDO, e-Awas, COMPACT, PARAS etc.
- The system sends SMS/E-mail alert to concerned stakeholders for every action due & performed.
- Retiring employee can track the retirement process online.
- Retiring employee can fill, print and send all the Pension related forms online.
- HOO can perform various activities online like sending forms to PAO, DoE etc.
- Auto Generation of Form 7, Form 8 and Calculation sheet
- Online registration for DDO/HOO/PAO and their dealing hands
- LDAP authentication for departmental users
- Printing of plastic identity card for pensioners

IMPLEMENTATION

DDO, HOO and PAO on-boarding: DDO, HOO, PAO and their dealing hands need to register themselves on the Bhavishya portal and need to print the filled form and up-

Workflow



Schematic workflow of 'Bhavishya'

load the duly signed form. No separate login id/password will be issued for the Department users and their existing NIC email ID and password will be used for authentication.

Retiring Employee on-boarding: DDO will upload the list of retiring employees in the form of an XML document and the retiring employees will duly be added on-board automatically by the system, and they will be provided the necessary login-id/password on their registered mobile no. and email-id.

Training: Bhavishya training centre has been set up to train the departmental user. Apart from the in-house training centre, a NICSI empanelled agency has also been trained in the application to provide the necessary training to the users, situated all over India.

Helpdesk: Telephonic, Email and Web VC based helpdesks have also been set up to provide the day-to-day support for all kinds of grievances that could plague the users of Bhavishya.

Project Development: Bhavishya, has been developed by NIC's Office Automation Division which is currently headed by Shri S.N. Sowpari, Sr. Technical Director. The project development is lead by Shri R. Sriram, Technical Director.

WAY FORWARD

Bhavishya is proposed to be implemented at around 9000 DDOs and will traverse across about 50,000 retiring employees annually. Presently, the implementation of Bhavishya has been carried forth at 89 Ministry/Department/Apex Bodies and 300 Attached Offices/Subordinate Offices of the Central Government. Currently, around 3000 DDOs and 12,000 retiring employees/ pensioners have been brought on board.

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Mobile Governance In Bihar

Presenting A Smarter Way To Deliver E-Governance Services

Apna Patna App, ePACS, Digital State Assets Register, Apps for ePlantation, eNursery and Civic Amenities are some of the key mobile based solutions developed by NIC Bihar for enabling smarter eGovernance Services for the citizens of Bihar.

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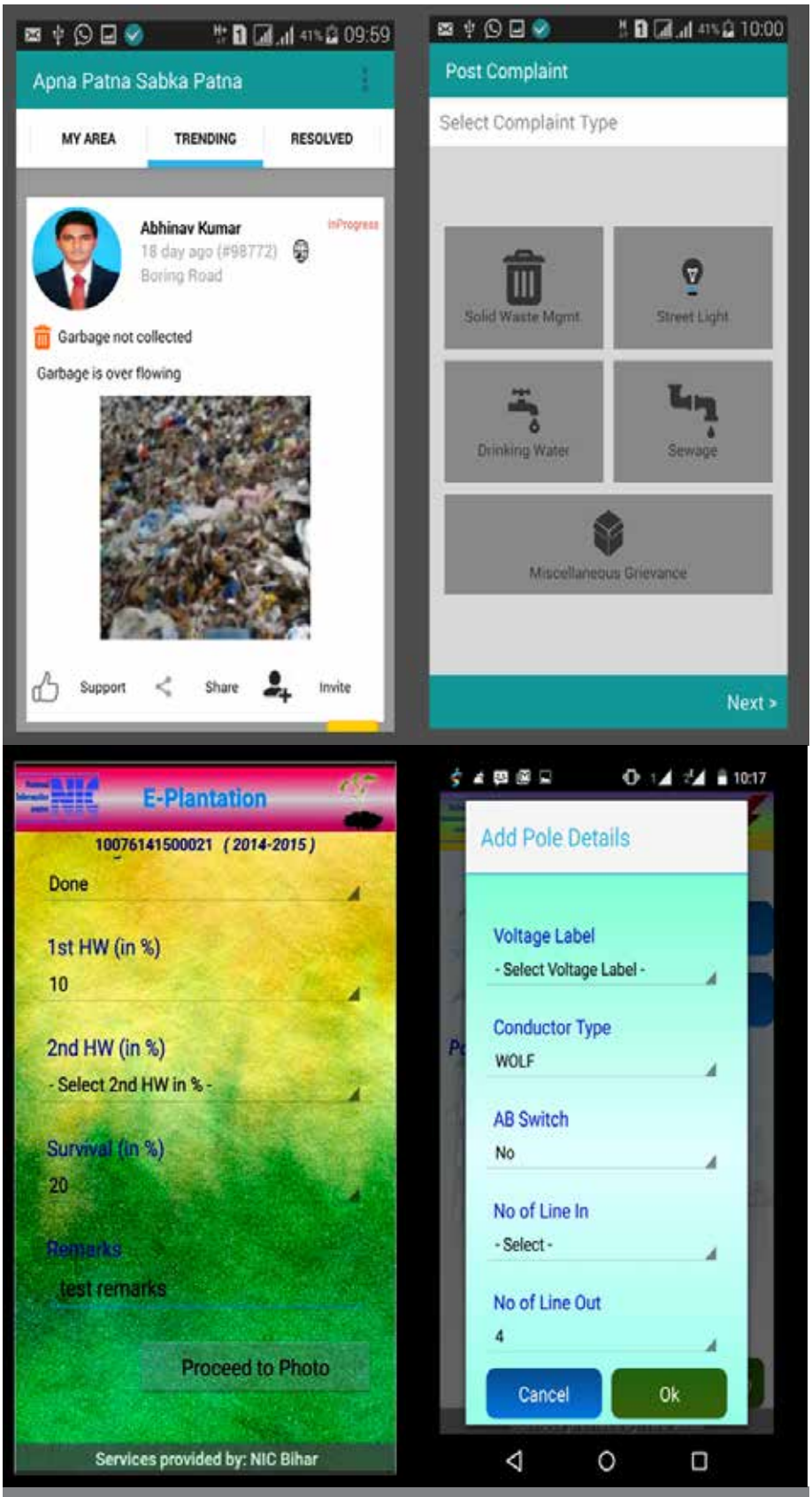
The m-Governance framework of Government of India aims to utilize the massive proliferation of mobile phones and harness the potential of mobile applications to enable easy and round-the-clock access to public services. The framework aims to create unique infrastructure as well as application development ecosystem for m-Governance in the country. Mobile technology is now considered as an opportunity for enhanced rollout of ICT based services.

Mobile based Apps development for m-Governance in the State of Bihar took a big leap harnessing various ICT tools and technologies. NIC Bihar has been pivotal in providing various ICT support enabling enhanced public services in the State. Further, various mobile-based channels are being leveraged to deliver the services to citizens. SMS is also widely used for disseminating status, alerts and notifications.

BENEFITS OF MGOVERNANCE

Mobile Governance benefits the citizens and other stakeholders in the following aspects:

- Ease of access and doorstep delivery of e-Governance services.
- Transparency in processes, quality enhancement in planning & execution and productivity linked release of funds.
- Real time monitoring of progress and quality of work even without visiting the actual location.
- Reduction in monitoring cost and control on false and suspicious reporting.
- Reporting from field formations through geo-tagged photographs.
- Empower citizens by providing them visual tool for social audit.
- Citizens can now easily know about various schemes and their progresses being carried out.
- Facilitates in creation of spatial database through capture and upload of geo-locations to understand distribution and coverage of projects.
- Automatic enforcement of onsite reporting cycle and policies.
- Geo-tagged Asset Register helps in planning additional resources required for citizens.
- Coverage or Non-Coverage Analysis helps to identify re-organization needs of Assets.
- The applications uses SMS Push and PULL service for alerts, enquiry, transactional SMS etc.
- Support for commonly available Android phones.
- GPS mapping, geo tagging and time stamping of reports and images.
- Report generation with signature and location map embedding.



Mobile User Interface of some of the key Apps developed and implemented

- Auto report mailing to pre-specified email address.
- Secure web interface for data management.

APNA PATNA APP

APNA Patna is a mobile governance initiative to deliver G2C services to the Citizens of Bihar. Jointly initiated by Urban Development Department, GoB and NIC, Bihar, this application provides an interface to Citizens to report about problems/grievances pertaining to their municipal area. Presently being used in Patna Municipal Corporation, the app is likely to be replicated in all the Municipal Corporations/ Municipalities of Bihar.

E-PACS FOR PADDY PROCUREMENT

e-PACS is a mobile and web-based solution to facilitate paddy procurement through PACS (Primary Agriculture Credit Society) and Vyapaar Mandal across Bihar. The payments made to PACS and farmers are also monitored using the application. This is a G2G initiative by Co-operative Department, Government of Bihar to track paddy procurement, its milling & delivery of rice by millers through Mobile App. This application solves the problem of information gap observed in paddy procurement, conversion to rice, delivery & subsequent management of rice at the depots. The resultant output is to have real time data on procurement process.

MOBILE BASED DIGITAL STATE ASSET REGISTER

The "Mobile based Digital State Asset Register" is a joint initiative of IT Department, Govt. of Bihar and National Informatics Centre, Bihar. This project has been conceived to estab-

Shri Rajesh Kumar Singh, SIO Bihar and Sh. Shailesh Kumar Shrivastava, TD receiving CSI Nihilent e-Governance Award from Chairman, Computer Society of India held at New Delhi.

lish mobile framework for on-site reporting and inspection of various government executed projects such as buildings, roads, health facilities, education facilities, disaster management, electricity network, PDS shops, nursery plantations and many other assets to strengthen asset management, project management and other related functions for improved planning & execution mechanism. Mobile devices based solution has been developed and deployed so that requisite information/ photos/ videos from work site can be captured and populated in the centralized database of Government Assets. The web-enabled MIS solution generates compiled MIS reports with detailed analytics.

E-PLANTATION

e-Plantation project is a key-component driving the ambitious plan of the Forest Department, Government of Bihar in order to increase the forest coverage upto 15% in a given timeframe of three years. An integrated system of MIS and geo-spatial data has been developed to monitor the plantation activities across the State. Android based application has been developed for mobile devices to capture details of plantation at site, which allows registering plantation details on website along with other details such as scheme name, plantation area, species and sanction details. Details of plantations are downloaded to smart phone of field staff that can perform reporting from the plantation site. Mobile application works in deferred update mode and does not require Internet connectivity at the site. This software has created a permanent and verifiable database in respect of plantation programmes taken up by the Forestry sector and helps to analyze and monitor plantations.

Project Information Monitoring System for Building Construction Department

This is a mobile-based e-Governance application, which helps to manage and monitor large-scale building construction schemes undertaken by Building Construction Department across Bihar. The application provides access to field engineers for conveniently reporting activities such as selection of Schemes, updating the stages of construction, release of payment order etc. With this mobile application, field engineers can instantly update the details of the building under construction along with the time-stamped geo-tagged photograph of the building right from the construction sites.

RECOGNITIONS

Apart from the popularity gained from the citizens, the mobile-based Assets Register has bagged the "Award of Excellence" during the 50th CSI Annual Convention held at New Delhi

SUMMARY

The establishment of mobile based e-Governance framework in Bihar has resulted improved efficiency in monitoring of building & road projects, plantations, nursery, health facilities, electricity network, to strengthen asset management, project management and other related functions for improved planning and execution mechanisms. The MIS reporting solution envisages the collection of various data from field units either through the use of web application or using the medium of mobile SMS/ GPRS/ 3G. This application is capable of generating compiled MIS reports with detailed analytics. Mobile technology has been extensively used in the State to support location-specific decision making by the Government.

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System for Debt Redemption Scheme

A Success Story From Andhra Pradesh

Surmounting various challenges in the process of design, development and implementation, the software application developed by NIC successfully enabled end-to-end processing and implementing of the second installment of 'Debt Redemption Scheme' of Government of Andhra Pradesh. With the release of beneficiaries list on 22 June 2016, the system so far has processed 83.28 lakhs of loan accounts spanning 35.41 lakhs of farmers and 29.71 lakhs of farmer families

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Edited by
R. GAYATRI

The Government of Andhra Pradesh announced redemption of debts to farmers as per the Government Order of 14th August 2014. The basic objective of this scheme is to waive the agriculture crop loans and gold loans availed for agricultural purposes, together the amount not exceeding Rs.1.50 lakhs per family.

National Informatics Centre, Andhra Pradesh was entrusted to provide an Information & Communication Technology (ICT) based system within a short time span of 30 days to complete the study, design, develop, test, train and roll-out of the software. After the requirement study, a web-based system was designed, developed and successfully implemented.

The first release of the software was on 11th September 2014, which enabled data entry by the banks. This task was completed in 2 months, which followed data verification and purification phases in November 2014. Processing of data resulted in the declaration of beneficiaries' list of first phase on 6th December 2014.

STAKEHOLDERS

The following diagram outlines the stakeholders and their roles during the entire process of implementation of the scheme.

PROCESS

The process adopted for the implementation of Scheme is diagrammatically represented below:

ACTIVITIES

Following are the activities and processes involved in the Data preparation:

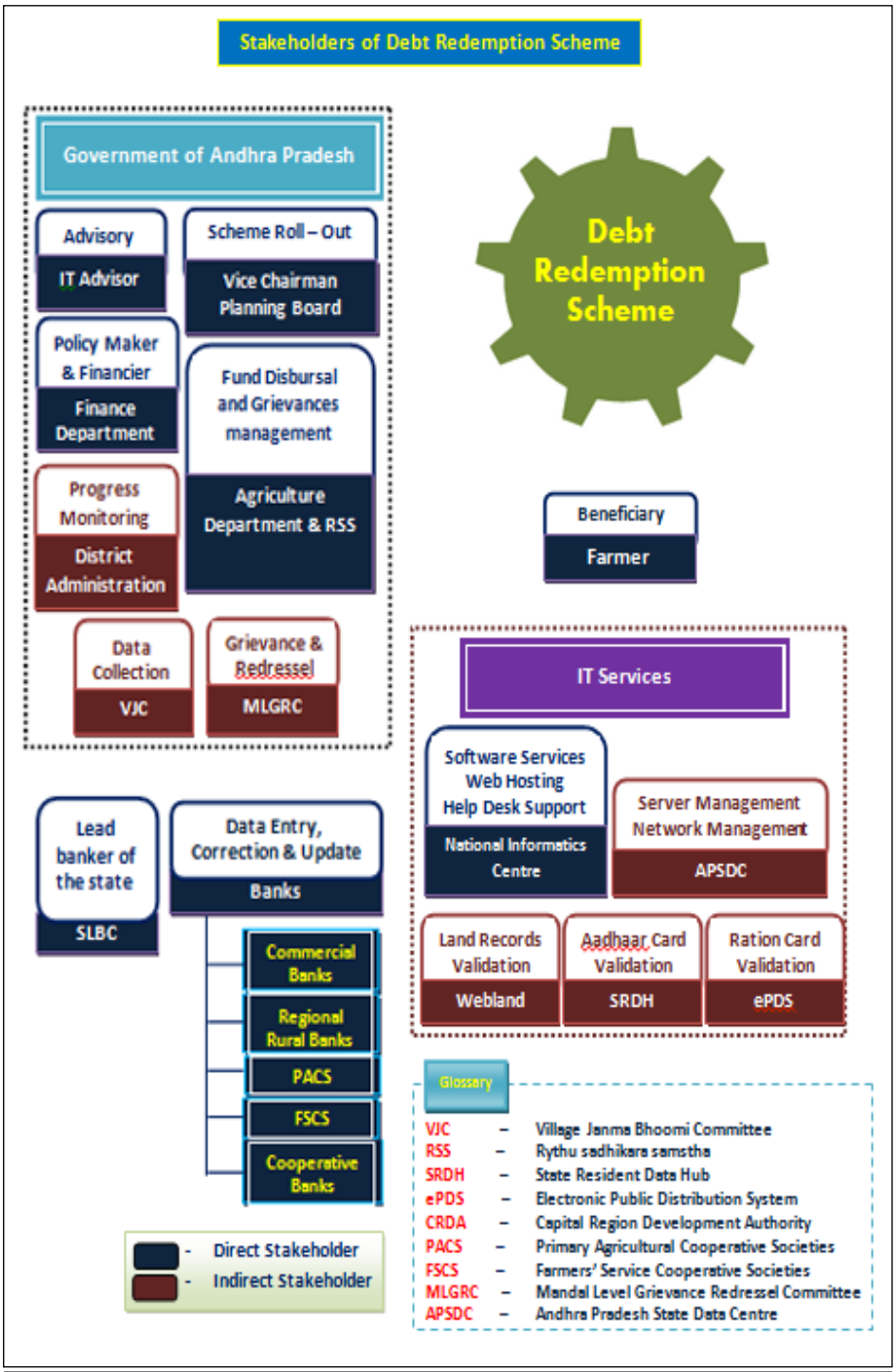
DATA CAPTURE

This involved two different modes of data entry-

- Online: Partial data porting from Core Banking System
- Offline: Excel-based entry with extensive data validations and facility for conversion to XML and uploading

DATA VERIFICATION & VALIDATION

- Online:
  - o Aadhaar number validated against State Resident Data Hub (SRDH) by popping-up demographic details including photograph
  - o Populating land details like village, survey-number, khata-number



Stakeholders and their Scheme-roles

from Land Records Database

- o Verification of Ration card numbers with Electronic Public Distribution System (ePDS)
- Offline:
- o Batch mode check of all above

Data Merger, Aggregation, Purification & Processing

- Data obtained from both modes was merged, aggregated and subjected to final verification
- Highly complex final processing involving compounded queries
- Full-fledged Management Information System (MIS) portal was deployed, facilitating flexible statistical abstracts and detailed reports such as Cleared lists, Verification reports, 'Not-as-per-Norms' lists: branch-wise and District-Mandal-wise
- Web-based portal for grievances and redressal was developed and enabled through Citizen Service Centres

STATISTICS OF THE PROCESS

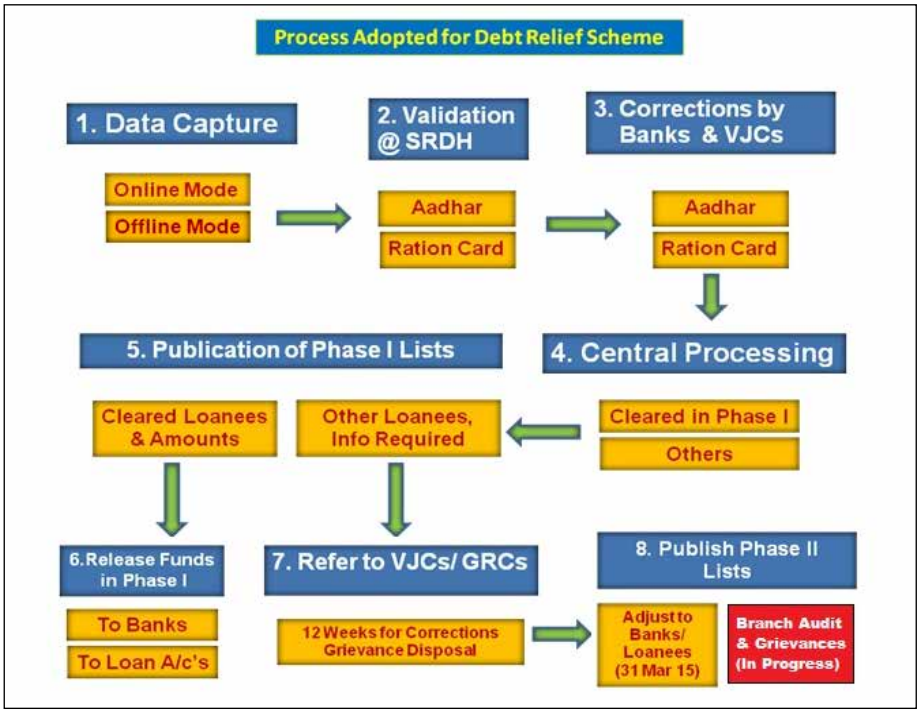
- 43 banks comprising of 6822 branches entered data
- 20 banks opted for online entry and 23 for offline mode
- 83.28 lakhs loan accounts entered in all
- About 35 lakhs hits received during each phase of release by general public through online loan status reporting system
- 24x7 Helpdesk support over phone and e-mail during peak phases of data entry
- About 17000 Village Janmabhoomi Committees (VJC) worked on data collection and data purification
- Around 700 Mandal Level Grievance Redressal Committees (MLGRC) examined grievances of farmers
- 35.41 lakhs farmers having 54.98 lakhs loan accounts and 29.71 lakhs farmer families benefitted in the first installment

CHALLENGES FACED AND OVERCAME

- ICT enablement was a big challenge due to the voluminous data,

rigid timelines and political implications involved

- Requirement gathering was carried out through SLBC and the Finance department. SLBC could not consolidate the requirements at one go on behalf of all the Banks. It took many sessions to freeze the requirements
- Due to non-uniformity in the conventions/ standards adopted by banks, designing the database was a challenge
- Provision of alternate solutions of entries to Banks, enabling similar kinds of validations during both the modes of entry
- Lack of Internet connectivity at remote branches compelled one major commercial bank to opt for offline mode of entry during the midway of the process
- Restricted hours of data entry at branches (due to Banks' routine activities), required NIC helpdesk to operate on 24x7 basis
- Verification of entry of invalid/ incorrect figures such as loan and outstanding amounts
- Seamless merging and streamlining of offline data with online entries to maintain consistency and integrity
- Entire data had to be processed in a single go to apply G.O norms uniformly
- The task was resources demanding such as enough RAM, processing speed, storage disk size and physical monitoring
- Procurement of high-end servers at NIC and Andhra Pradesh State Data Centre exclusively to meet the demand



Process diagram of the implementation of Debt Relief Scheme

BEST PRACTICES

- The basic activity of requirement gathering was carried out spending copious amount of time
- Cross validations on data performed with other electronic databases
- Project Management activity vested with a group of senior officials from the Government and NIC
- Follow-up Video Conferences with district collectors regularly conducted by the Chief Secretary to the Government
- Every major mile-stone-activity was documented
- Sign-off from the Government

SUMMARY

Success of this system was a right combination of key decisions, resolving of problems and practical issues for implementation of such a complex project. The system improved quality of services and provided easy access of information by citizens as the entire technical ecosystem was established, maintained, controlled, balanced and monitored progressively.

The convergences of political will, efficient ICT solution and the stakeholders' engagement made this ambitious project possible. Effective project management, efficient helpdesk operations, suitable budgeting and the robust technologies used led to implementation success of the project.

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Single Window Clearances System

Ease Of Doing Business In Haryana

The Government of Haryana, as an initiative to promote business in the State, has simplified the process through the Single Window Clearances System, which facilitates prospective investors to obtain regulatory clearances online through Haryana Enterprise Promotion Board under Empowered Executive Committee.

Edited by
VIVEK VERMA

Single Window Clearances System facilitates the investors in Haryana to gets approvals/ clearances and NOCs required by them from different departments. Developed by teams of NIC Punjab and NIC Haryana, the system has been successfully implemented in Haryana.

Government of Haryana has taken a decision to bring all the investments related clearances and approvals to be brought under one roof. Haryana Enterprise Promotion board has been constituted to look after the clearances and approval to be provided to investors and the back end dealings with the concerned departments.

The Haryana Enterprises Promotion Act (HEPA), 2016 was passed by the Legislative Assembly on 31st March 2016. Under the Act, Haryana Enterprise Promotion Board (HEPB) has been constituted to provide overall policy guidance and facilitate the industrial development in the State. Under the HEPB, a two-tier system consisting of Empowered Executive Committee (EEC) and District Level Clearance Committee (DLCC) in each district is functioning for grant of project clearances.

Any investor can fill up the Common Application form (CAF), which has been made operational on http://investharyana.nic.in portal. All concerned departments for scrutiny and acceptance purpose can work upon the CAF.

On-line System for Grievance's Redress & Disputes Settlement for Industrial Units with reference to Ease of Doing Business is implemented from 2nd March 2016. For grievances redressal, the Investor files the grievance online. Grievances reach District Nodal Officer/ Desk Officer/

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Hon'ble Chief Minister inaugurating Invest Haryana

GM DIC of the District to which the grievances are related. He starts redressal process by online forwarding the grievance to the district head of the concerned department, who shall resolve the grievance and send back action taken report. Desk Officer may submit reply to Investor or may put up the matter in District Level Grievance Committee chaired by DC. In case, the grievance could not get resolved at DLGC, it can be forwarded to State Level Grievance Committee (STGC). Similar to the previous process, the Desk officer of State cum member Secy (SLGC), Director Industries forwards the grievance to HOD of the Concerned Department. In case, the grievance does not get resolved, it shall be forwarded to Apex Committee headed by PSCM for CM Haryana. The decision of the APEX Committee shall be replied to investor by Member Secretary of the Committee.

The One time settlement of the long pending disputes and litigations of the existing industrialists/ Investors in Haryana can now be filed on-line by them on this portal for settlement by the Empowered Committee. The one time disputes settlement process flow has been made online.

The Know Your Clearances guide helps anyone interested in investing in Haryana, who would like to know

the Clearances/ Approvals/ Licenses required for a particular type of investment/industry which is being planned. A Questionnaire has been prepared for filling online with about 20 questions and upon submission, the investor is provided with the major clearances/ approvals/ Licenses/ Registration etc. required by investor for his planning purpose.

36 web-based services existing on portals of various departments have been integrated by way of single sign-on through the Invest Haryana portal http://investharyana.nic.in.

Single Window Clearances Systems is a common platform notified by the State Government of Haryana to facilitate Prospective Investor to obtain Regulatory clearances through Haryana Enterprise Promotion Board (HEPB) under Empowered Executive Committee (EEC) Haryana. This is used by investors for Regulatory clearances, Fiscal Incentives, Fee payments, Document submission, Investment opportunities and Single point of Contact.

The State Government shall redress the Investor's Grievances by 3-Tier mechanism. It consists of

- District level committee at the level of Deputy Commissioner,
- Administrative Secretary level committee headed by Administrative Secretary of Industries & Commerce Department,
- APEX level committee at Haryana Enterprise Development Board.

Long pending Disputes of the existing investors and industrialists shall also be taken up for settlement by the APEX Committee.

Haryana State has the endeavor of facilitating the investors for Ease of Doing Business (EoDB) in Haryana.

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DC*Suite

Goa's Online Land Conversion Cases System

With the implementation of DC*Suite at South Goa Collectorate and related offices, physical movement of documents between stakeholders has been eliminated. The system has reduced time lags to a large extend and increased the efficiency at individual, organizational and inter-organizational levels.

Edited by
ANSHU ROHATGI

Our country has primarily an agrarian economy and land is deemed to be of agricultural nature unless there is a Land Conversion Sanad issued for that parcel of land. The Land Conversion Sanad is issued by the Revenue Department through Collectors and Deputy Collectors, which forms good revenue for the Government. In Goa, the service is delivered as per Section 32 of Goa Land Revenue Code 1968.

It is important to have a record of all such transactions besides facilitating timely delivery. Once these essential records are in place, working out a mechanism for enabling checks to prevent conversions which violate the basic Regional Plan Policy would be possible.

DC*Suite is a Land Conversion Application developed by NIC Goa for the South Goa Collectorate and related Offices to manage land conversion activities under their jurisdiction.

SALIENT FEATURES

With the implementation of DC*Suite, the physical movement of documents between stakeholders has been eliminated. This has reduced the time lags and increased the efficiency at individual, organizational and inter-organizational levels. Following are the highlight features of the system:

- The letters and inspection reports are now digitally signed documents for authenticity, integrity and non-repudiation. This has been made available in the system to the concerned authorities.
- The noting sheet is maintained by the system, with a facility for the reviewing and approving authorities

User Interface of DC* Suite

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to digitally sign. Once the workflow gets completed, the approving authority would be able to digitally sign the noting sheet, which can also be printed for record purpose and track the proceedings.

- This system has a configurable workflow, which makes the application work dynamically and concurrently with the changes in organizational structure and work allocation/ workflow, which may occur in future.
- The system facilitates seamless integrity between the various stakeholder departments those who are involved in the process for Town and Country Planning, Mamlatdars, Forest Department and Inspector of Settlement, Land Records etc.
- Conversion Sanad is a digitally signed document
- The system uses Dharani (Goa Textual Land Records System Rural and Urban) web-services for pulling live ROR as PDF and its details for validating the property details to be inspected.
- Online Land Conversion Cases System has been integrated with the eChallan Payment Gateway web-services of Goa State Treasury for generating eChallan and easy payment offline or online.
- Citizens can pay the Survey Fee and Sanad Fee online using Goa State Treasury's eChallan Payment Gateway portal.
- The system enables tracking of eChallan payment status.
- Generate eChallan receipts.
- SMS gateway is integrated, which enables the applicant to keep track of the application status at all major levels of case processing.

BENEFITS FOR CITIZENS

- Citizens will be notified at various stages of progress of the case through SMS
- Payment of Survey Fee and Conversion fee through eChallan Payment Gateway offline and online
- Enables Tracking eChallan Payment Status
- Since no manual letter based communication is involved, time taken during the manual correspondence with stakeholders has been cut down.
- The system binds all stakeholders involved in Land Conversion

Shri Subhash Faldessai, Hon'ble MLA Sanguem, handing over the copy of Sanad to a citizen

TECHNOLOGY STACK

- Open Source Technologies such as LAMP with HTML5, CSS 3, Ajax, JQuery and JavaScript
- PDF and XADES Digital Signatures for document authentication, integrity and non-repudiation
- Dot Net Framework based web services with Crystal Reports for generation of letters as PDF and eChallan generation
- Payment status check using the Goa State Treasury's eChallan Payment Gateway

SUMMARY

It is also necessary to reflect the Land Conversions on the Land Classification section of Record of Rights (ROR) by updation of the same. Earlier, the practice of reflecting the changes on the ROR after a land conversion was not prevalent. Thus the Land Classification section of ROR does not reflect the actual land use prevailing on the field. Necessary measures in this regard are being taken by Revenue Department, Government of Goa. A process to trigger auto-updation of ROR with the necessary required checks which is secure, convenient for existing applications is being worked upon.

DC*Suite is planned for replication at all other sub-divisions of South Goa District.

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ICT Shines in the Sun City

Computerization Of Jodhpur Development Authority

Jodhpur Development Authority (JDA) was established with the objective of providing basic infrastructure in Jodhpur district to meet the ever- growing demand of public and carry out continuous improvement in the city. NIC Jodhpur Centre is providing remarkable ICT support and services to the Authority and has been instrumental in JDA computerization.

Edited by
VIVEK VERMA & CHANDAN SEN

Jodhpur Development Authority (JDA) was established with a vision of planned, holistic and inclusive development of Jodhpur. These include providing basic infrastructure and amenities to the growing public's common needs. The district covers 4360 Sq. Kms. and 395 villages under its jurisdiction.

The NIC District Centre, Jodhpur set up during the year 1988, has been instrumental in providing ICT based e-Governance products and services for the District administration, Rajasthan High Court, District Court and other Government Departments for implementing initiatives of JDA. In April 1996, the Centre started functioning at an independent building of the District Collectorate. The technical infrastructure available for the centre includes two high end Servers, 10 Client machines, high-end MFP, 10 KVA UPS and connectivity of 4 Mbps (BSNL) lease line.

ICT BASED SERVICES BY NIC

The ICT based services by NIC District Centre-Jodhpur under the JDA computerization project in a planned and time bound manner are:

- **Design & development of web portal**

Homepage of JDA webportal (http://www.jodhpurjda.org)

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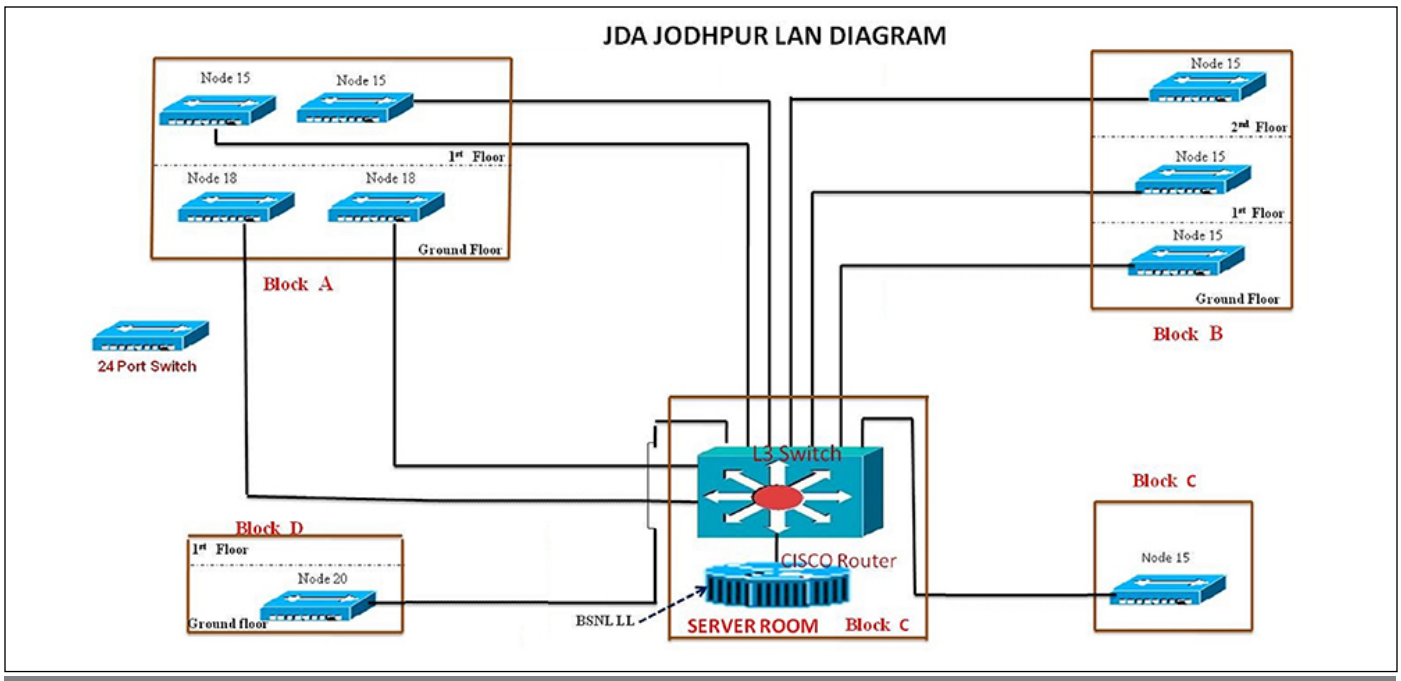

Diagram of LAN of JDA, Jodhpur

- **Design & establishment of Local Area Network**
- **Development of Office Automation Software**
- **Procurement & installation of Hardware - Networking equipments**
- **Establishment of 4-Mbps (BSNL) lease line**

WEB PORTAL OF JDA

Features & Technology

Hosted at NIC Data Centre New Delhi, the portal provides regularly updated information such as Online Lease Defaulter List, Online Property Register, Online Land Bank, Online CCC application status, JDA e-Newsletter, JDA Circulars & Orders, Acts & Rules, Telephone Directory, Zone wise Maps, Auctions, Tenders, Lottery Results of Schemes, Application Forms, Master Plan, Minutes of Meetings etc. The Portal has been developed using Core PHP with MySql Database and Apache Web Server.

LOCAL AREA NETWORK (LAN)

NIC-Jodhpur has provided technical support for establishing LAN in the JDA building, which consists of four Blocks. The LAN has been linked up with BSNL's 4 Mbps Lease Line.

OFFICE AUTOMATION

The systems & IT Applications implemented by NIC Jodhpur for establishing office automation of JDA are:

SINGLE WINDOW SYSTEM

- **Citizens Care Centre**- deals with all citizen services such as issuance of Lease Deed, Lease Exemption Certificate, Name transfer, NOCs for Loans, Certified Copy, Sale Permission, Lease Issuance under 90A Regulation, Map Approvals, RTI and Layout Plan approval.
- **Cash Collection System**- is used

A busy day at NIC-JDA Cell

to collect cash, DD and cheques received under various revenue heads and linked with Lease Management System for auto lease updating.

- **Lease Monitoring System**- is a web-based application to facilitate scheme-wise lease information. It generates various ledger and demand notes such as one-time lease, yearly lease, transfer etc. It is also linked with property register and cash collection, which ensure auto updating of lease records with transaction details.
- **Files & Letter Monitoring System** is to facilitate tracing of files and documents within JDA, its Zones and Sections. NIC Rajasthan State Unit has developed this system.

DOUBLE ENTRY ACCOUNTING SYSTEM

System modules include Bank Challan, Budget, Work Order Form for Contractors, FVC Bills, Purchase & Journal Vouchers, Cheques Entry & Printing, Cash Book, Bank Reconciliation, various MIS Reports, Monthly Progress Report and Contractor Ledger.

- Property Register- is to maintain complete data of schemes, allottee-wise. It also facilitates to track duplicity in allocation of plots.
- **90A Application**- to process and monitor 90A application.
- **Files Scanning & Management System**- is to scan all type of files, which can be retrieved, based on entered parameters. The system generates slips for pasting on physical file.
- **Pay Manager**- is an online system developed by NIC Rajasthan State Unit, implemented to prepare pay bill to employees. The software also facilitates preparation of DA Arrears, Bonus, and Salary Arrear Bills.
- **Court Case Management System**- monitors all type of court cases. It generates a list of pending cases till a particular date besides the other MIS reports.
- **File Tracking System**- helps in tracking the movement of files and facilitates users to maintain a consistent watch over the movement of important documents during the process of decision-making.
- **Scheme Management System**- maintains information of applicants of various housing schemes of JDA such as lottery slip, sector wise plot detail, allotment status reports, refunded applicant details, allotment letter etc.
- **e-News Letter**- is a monthly publication to disseminate various activities of JDA.
- **SIM (Mobile Phone) Management System**- maintain details, tracking of all issued JDA CUG mobile SIMS and payment of bills.
- **Local Technical Complaint Management System**- is used to manage and settle technical complaints of various sections and zones.
- **Operator Attendance System**- is designed to keep records of attendance and track the job time of operators. MIS reports are also generated.
- **Important Dak Management System**- is to monitor redressal of important letters in stipulated time. The system handles queries and generates various MIS reports.
- **Online Citizen Services**- includes Building Permission, Lease Defaulter & Lease Ledger, Property Register, Citizen Care Centre Status, Land Bank etc.
- **e-Procurement System** (https://eproc.rajasthan.gov.in/)- developed by NIC Rajasthan State Unit for the process of procurement of items electronically to bring transparency, reduce tendering cycle time and most of the indirect costs besides the facilitation to upload various tenders from different zones with digital signatures.
- **Rajasthan State Public Procurement Portal** (http://sppp.rajasthan.gov.in), developed by NIC Rajasthan State Unit publishes documents, amendments, clarifications etc. related to various procurements in the State.

FUTURE PLANS

Software applications developed for JDA are proposed for rollout in UIT Udaipur and Kota after necessary customizations. Following are the near future activities planned:

1. GIS implementation for JDA property & Projects
2. Online Name Transfer
3. Online Lease Exemption Certificate
4. Online Project Management
5. Cashless System for services of JDA

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District Patna

Fostering ICT For e-Governance With Mobile Applications

Set up in the year 1988, NIC District unit of Patna has been playing a key role in computerization, providing efficient software solutions and carrying out various ICT activities for this glorious city. Several mobile applications have been introduced to enable good e-Governance in the District.

Edited by
PRASHANT BELAWARIAR

NIC District Centre, Patna was set up in the year 1988 and since then contributing immensely to the district in establishing computer awareness, carrying out various successful ICT activities such as facilitating computerization, providing software solutions and training to District Administration and various other government departments. Many mobile applications have been introduced for enhancing e-Governance activities of the region.

E-GOVERNANCE IN THE DISTRICT

Highlighted below are the recent e-Governance projects, products and support systems provided by NIC, Patna.

• SAMPARK

An ICT based IVRS enabled Public Grievance Redressal System, an initiative of district administration, through which any one can directly talk to concerned officer regarding their grievances. The call gets forwarded on mobile number of concerned officer based on choice opted by the caller through IVRS system. The system keeps records of all voice conversion for quality services and further verification. PRERNA (Performing Role Model for Efficient, Responsive and Noble Administration) cell established

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"To promote e-Governance and improve delivery of various citizen services to the grassroots using ICT, district administration has taken several initiatives steps including recently launched "SAMPARK: an ICT enabled IVRS based Public Grievance Redressal System" in Patna district. It gives me immense pleasure to express that we have taken an initiative in implementation of m-Governance in administration through development of various mobile applications like Aangan, Upasthiti & Swachham etc. with the help of NIC. I appreciate the efforts and proactive support of NIC district team especially in development of various inspecting mobile applications"

SANJAY KUMAR AGRAWAL, IAS
District Magistrate, Patna, Bihar

Homepage of the website of Patna District

Aangan Mobile App

at district played a vital role in implementation of this project.

• PDS Computerization

The Socio-Economic Caste Census (SECC) data were accepted to identify eligible households, based on the exclusion and inclusion approach. A new list of Priority Household (PHH) beneficiaries generated on the basis of SECC data (draft & final) and Ration cards were printed and distributed.

• Mobile based applications for reporting

Mobile applications designed, developed and implemented for the District Administration are:

- **E-PACS** - a mobile application deployed for sending daily procurement details from the Primary Agriculture Cooperative Societies (PACS).
- **AANGAN** - a mobile application for capturing data from the Anganwadi Centres by Child Development Project Officer and report back with figures, photos and location details.
- **UPASTHITI** - a mobile-based attendance reporting system for District and Block level offices. The system captures attendance of employees, absentees and employees-on-leave along with photos of the relevant pages of attendance register.
- **POIMS** - an online inspection monitoring system used for sending inspection report of Public Distribution Shop directly through mobile phones. All marketing and block level officers are trained to use this application.
- **Bank Location** - All bank branches of the district have been mapped (longitude & latitude) captured for need and reach of banking facilities through mobile application.
- **SWACHAM** - is an online monitoring system for reporting the status of various stages of toilet construction from the site capturing real time photographs.

• **Executive Court Information System (ECIS)**- launched by the Patna Divisional Commissioner, facilitates viewing of Cause list and Case status. ECIS, which has been implemented at the District Magistrate Court, has been populated with the data of over 650 cases in very short-time. With this software, daily cause list is generated with

Patna Divisional Commissioner, Shri Anand Kishor along with Shri Rajesh Kumar Singh, SIO-Bihar during the launch of ECIS

SMS messaging facility to inform advocate and respondents.

- **Invigilator Randomization** - Exclusive software has been developed for randomization of invigilators (teachers who are deputed within their posting sub-division) for Intermediate and Matriculation Examination 2016. Database consisting of about 4000 teachers has been used for the purpose.

- **ELECTIONS:** Technical and functional support is provided for successful implementation of ELECON s/w during Assembly Election in October 2015, MLC Election in July 2015, Panchayat Bye-Election in February 2015, PACS remaining election in April 2015, for election of Bikram and Naubatpur Nagar Panchayat and for Panchayat General Election 2016. Voter list disintegration (VDLS) software was provided to create panchayat voter list ward wise. Force deployment online application is used to deploy the police personnel at polling stations through randomization process. ELECOM (Election Communication) the mobile application is used by the media personnel and district official for information/news sharing during the election.

  Webcasting of election process at Booth has been arranged with proper personnel training. Election related data uploading and online reporting (Affidavits, Expenditure of candidates etc.) through various applications namely GENESYS, Election monitoring Dashboard, DEO's portal and District Election portal has been done from NIC during Assembly Election.

CAPACITY BUILDING AND TRAINING SUPPORT

- **E-Blocks**- websites maintained and carried out various data capturing through the website URL http://eblocks.bih.nic.in

- **E-Labharthi**- is used to capture information such as Bank account details, IFSC and Aadhaar number for the 6 types of Government pension beneficiaries. Provided data entry training to computer operators.

- **Saansad Adarsh Gram Yojana**- Conducted training at NIC Centre for data entry operators from different blocks for the initiative.

SUMMARY

Mobile applications and technical solutions provided to the District Administration are highly appreciated. Other important software applications, which are being used in the district, include Bhu-Abhilekh, VAHAN and SARATHI at District Transport Office, IVFRT, NDAL and e-Prisons.

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District Sirmaur

Committed Towards Digital India

Winning the top award during the Digital India Week celebration 2015 underlines NIC Sirmaur's true commitment towards making the dream of Hon'ble Prime Minister to transform India into a digitally empowered society and knowledge economy.

Edited by
VIVEK VERMA

Sirmaur, situated in southeast of Himachal Pradesh, was founded in 1616 as an independent kingdom in India. It is largely mountainous and rural, with 90 percent of its population living in villages. This includes the town of Nahan (District Headquarter) as well as the Shivalik Fossil Park at Suketi, where fossils dating back to over 85 million years have been found. Agriculture is the backbone of the region's economy.

The NIC District Centre Sirmaur has been actively providing support to the District Administration since 1988 in all its endeavors for the implementation of various national and state level e-governance projects and the Digital India programmes. In this long journey of NIC District Unit Sirmaur, it has made all the administrative units as IT savvy and rendered citizen centric services in a more transparent and effective manner.

> "ICT has a pivotal role and has revolutionized work culture by improving process management in delivering citizen centric services. The NIC Sirmaur has played a key role not only by implementing e-Governance projects successfully but also to act as a backbone for Administration by facilitating timely availability of data/ information for better planning and decision making"
>
> **BALBIR CHAND BADALIA, IAS**
> **Deputy Commissioner**

NATIONAL ICT INITIATIVES

Jeevan Pramaan Life Certificates for Central and State Government Pensioners, application has been implemented at Treasury office in the district and Life Certificates issued to the pensioners during awareness camps.

Digital Locker - To preserve the documents in digital form and to provide a secure access to the government issued documents, awareness camps were organised and Digital Locker accounts of the general public, officials and school students were created.

AEBAS - Aadhaar Enabled Biometric Attendance System has been implemented in various Central and State government offices.

Sarathi - Ver. 4.0 is a web based system for issuance of Learner Licenses,

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LokPraman Patra Certificates Camp organised in a school of instant issuance of certificates such as for Caste, Income, OBC and Domicile.

Permanent Driving Licenses and is implemented at all the Registration & Licensing Authorities in the district. The SW is integrated with STALL, a Screen Test Aid for Learner Licenses and enables citizens to apply online for driving licenses.

Vahan - offers all the services related to registration of vehicles, issuance of permits, collection of token tax as well as various other vehicle transactions. Soon Vahan4.0 web based solution will be implemented in the State, which will link with the dealers and payment gateway of the Cyber Treasury.

Swachh Bharat Mission (SBM) - Under this programme, the Municipalities of the District are well supported by providing the technical trainings for the usage of online software for achieving the goals of Swachh Bharat Mission.

IVFRT - Immigration, Visa and Foreigner's Registration & Tracking system has been implemented at the FRO-cum-SP Office. Trainings to institutes and hoteliers have been provided for registration of foreign nationals under relevant forms.

STATE ICT INITIATIVES

MyDiarY App - The updation of the VIP directory and vacancy positions is done for the district level offices.

HimBhoomi - Implemented at all Tehsils, this system is used to computerize Land Records and generation of various registers and related MIS reports. General public can take the copy of their Record of Rights from Lok Mitra Kendras (CSCs) or through Internet.

HimRIS - This software is used for registration of land deeds and is integrated with the HimBhoomi software where mutation data is transferred automatically.

Circle Rates - Online system for compilation and publishing of the land rates by District Collector to facilitate the general public for payment of the stamp duty for land deeds.

LokPraman Patra - Web based software being used for issuance of numerous types of certificates to be issued by all the Executive Magistrates.

Himkosh - Integrated Financial Management System has been implemented at district treasury and all the sub treasuries. The key modules include eSalary (online salary preparation by

Screen shot of the website of District Sirmaur (http://hpsirmaur.nic.in)

all DDOs and electronic transfer of payment into beneficiary accounts), ePension (on-line pension processing and disbursement system), eChallan (online system for HP Government receipts), HPNPS (online Pension MIS under New Pension Scheme), eKosh (online system implemented at all the treasuries for bill submission, bill processing, budget allocation till ECS based payment to the beneficiary account) and eStamp (online system for receipt and issuance of Stamp Papers).

District Web Site - The official website of district http://hpsirmaur.gov.in has been designed & maintained by the NIC District centre in coordination with the District Administration.

NICNET & Video Conferencing - NIC District centre is connected with NIC HP State Centre over 1Gbps leased line with 34 Mbps backup link. NICNET based Leased line links to Pollution Control Board Paonta Sahib, District Courts Nahan are being managed by NIC District Centre. Additionally, a LAN has been established in DC Office covering all the branches of the Complex. Video Conference services are being provided to all the Government offices.

OTHER IMPORTANT PROJECTS

- **District Information System** for Elections (DISE) for Parliament/ Assembly elections
- **Electoral Roll Management System** (ERMS) for PRI/ULB elections.
- **Welfare Pensions** MIS (eKalyan)
- **Shastr** - Online system for issuance, renewal, endorsement of Arms Licenses
- **Manav Sampada** – electronic Human Resource Management System
- **eSamadhan** - Workflow based grievance redressal system
- **eRojgar** - Employment Exchange Management System including Job Portal.
- **ePehchan**- Online System for issuance of Disability and Senior Citizen Identity Cards.
- **Double Entry Accounting System** (DEAS) in Blocks
- **SchemesMIS** – Online sanctions and monitoring of developmental schemes
- **REFNIC** - Software for the diary & dispatch sections

RECENT INITIATIVES

The NIC District Sirmaur is fully committed to make the Digital India programme a success and to materialize the dream of our Hon'ble Prime Minister to transform India into a digitally empowered society and knowledge economy. Winning the 1st Prize in State during the Digital India Week Celebration events in July 2015 underlines NIC Sirmaur's commitment. Under this programme various types of initiatives were taken up viz., organizing webcast of Digital India Week inaugural function for all departments, opening of Digital Locker Accounts, Issuance of Digital Life Certificates to pensioners, Installation & demonstration of NIC developed Mobile Apps, organizing IT Quiz Contests and Presentation on Digital India Programmes at DC Office, District Treasury, Municipality, Schools, Panchayats to sensitize the public about various Government Citizen Online Services. Services like certificates, digital lockers have been offered during the awareness camps organised in Schools for the benefit of students.

Deputy Commissioner, Sirmaur (R) and DIO, NIC with the Digital India Week, First Prize Award

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oAuth Based Single Sign-On

Enabling Seamless Access to MyGov, Associated Sites And Apps

Introduction of oAuth 2.0 based Single Sign-On authentication mechanism in MyGov has enabled better user experience while accessing its various sites and Apps. Now the citizens can engage in seamless participatory activities without multiple time signing in.

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Edited by
MOHAN DAS VISWAM

MyGov is one of the most innovative public consultation platforms for deriving various policies and planning in government. This online platform has evolved tremendously since its succesful inception two years ago featuring various kinds of citizen engagement components for better governance. A key highlight of the core technology used in MyGov remains light yet robust whereas various sub-domains viz. Blogs, Newsletters, Volunteering, Survey, SwachhBharat, Innovation, Transforming India and SmartNet besides its mobile Apps.

It is important to provide the user a simple and seamless experience while traversing between MyGov and its various sites. To avoid multiple times signing in by users to access various sites and Apps of MyGov and thus achieve seamless citizen participation/ engagement activities in the platform, enablement of oAuth 2.0 based Single Sign-On (SSO) authentication mechanism has been introduced, which is a standard protocol used by modern social media platforms. With this technology enhancement, a citizen can seamlessly engage in the activities by signing in only once.

oAUTH ROLES:

1. Resource Owner: User

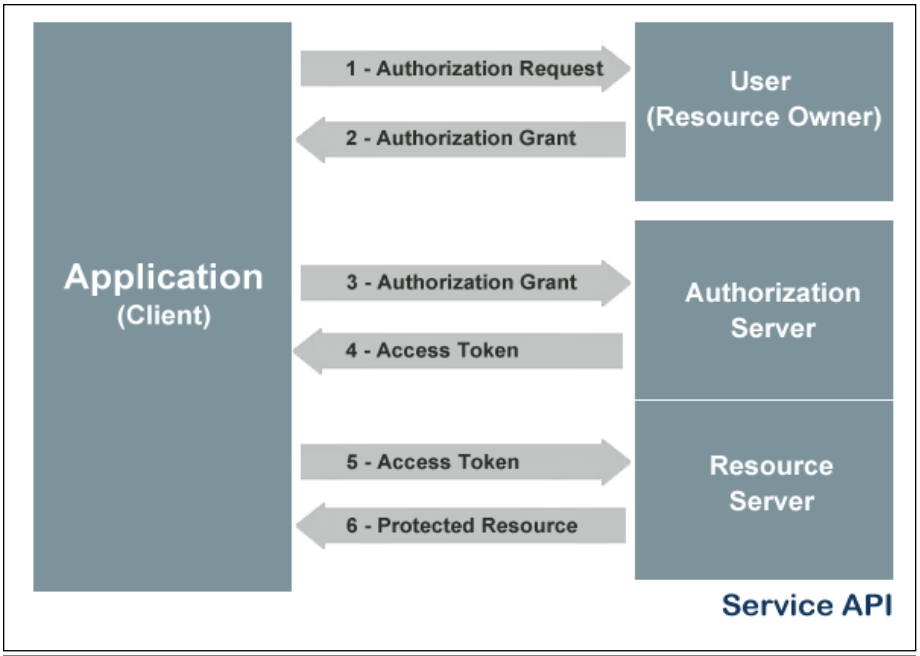
The resource owner is the user who authorizes an application to access their account. The application's access to the user's account is limited to the "scope" of the authorization granted (e.g. read or write access).

2. Client: Application

The client is the application that wants to access the user's account. Before it may do so, it must be authorized by the user, and the authorization must be validated by the API.

3. Resource and Authorization Server: API

The resource server hosts the protected user accounts, and the authorization server verifies the identity of the user then issues access tokens to the application. From an application developer's point of view, a service's API fulfils both the resource and authorization server roles. Here it is referred to both of these roles combined, as the Service or API.



Abstract Protocol Flow diagram

4. Mechanisms to use MyGov oAuth 2.0 by any client application:

Above diagram depicts the abstract protocol flow of how they generally interact with each other:

APPLICATION REGISTRATION

The application wants to use MyGov oAuth 2.0 will have to be registered with https://auth.mygov.in to get the Client ID and Client Secret Key.

CLIENT ID AND CLIENT SECRET KEY

Once your application is registered, the service will issue "client credentials" in the form of a client identifier and a client secret. The Client ID is a publicly exposed string that is used by the service API to identify the application, and is also used to build authorization URLs that are presented to users. The Client Secret is used to authenticate the identity of the application to the service API when the application requests to access a user's account, and must be kept private between the application and the API.

AUTHORIZATION GRANT

In the Abstract Protocol Flow above, the first four steps cover obtaining an authorization grant and access token. The authorization grant type depends on the method used by the application to request authorization, and the grant types supported by the API. oAuth 2.0 defines four grant types (Authorization Code, Implicit, Resource Owner Password Credentials, Client Credentials) each of which is useful in different cases:

GRANT TYPE: AUTHORIZATION CODE

The authorization code grant type used with server-side Applications is the most commonly used because it is optimized for server-side applications, where source code is not publicly exposed, and Client Secret confidentiality can be maintained. This is a redirection-based flow, which means that the application must be capable of interacting with the user-agent (i.e. the user's web browser) and receiving API authorization codes that are routed through the user-agent.

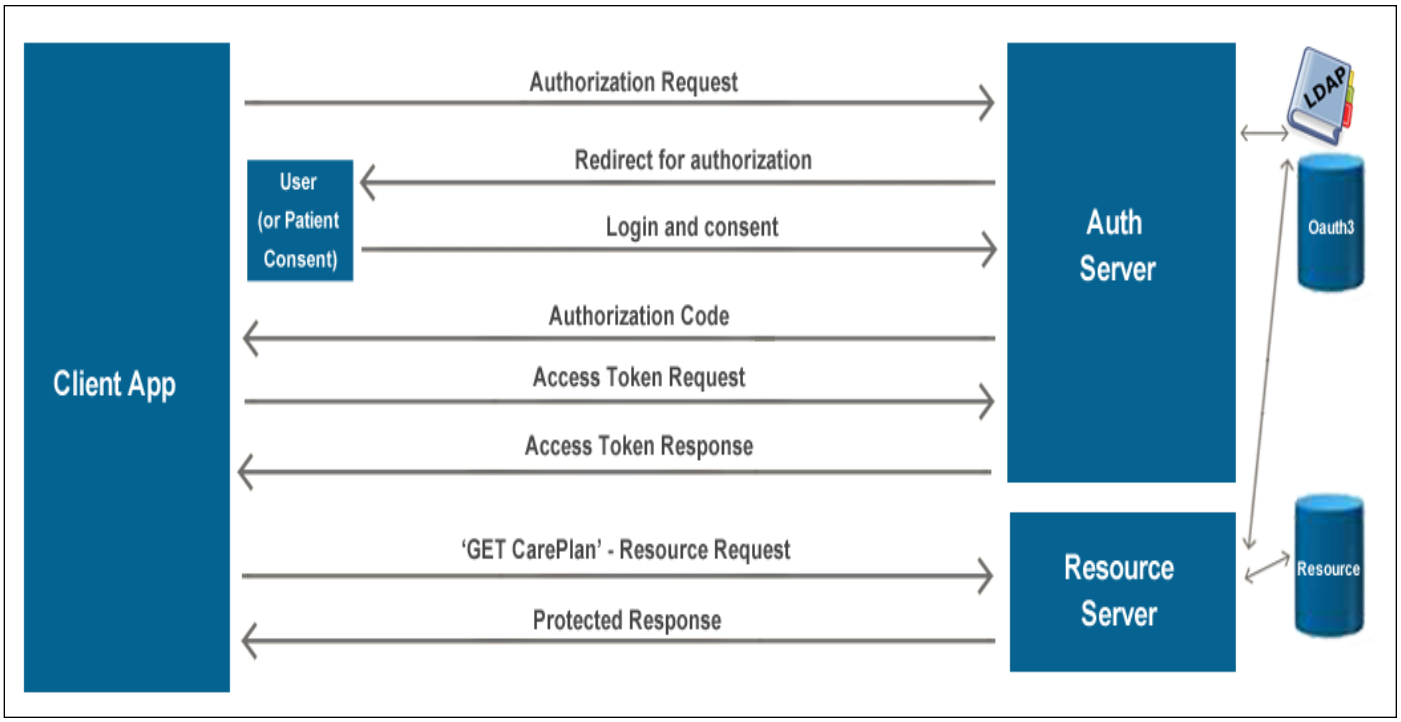
Once the application is authorized! It may use the token to access the user's account via the service API. The service call should be a POST request with Authorisation Headers having the access_token.

GRANT TYPE: IMPLICIT

The implicit grant type is basically used with Mobile Apps or Web Applications (applications that run on the user's device). The implicit grant type is also a redirection-based flow but the access token is given to the user-agent to forward to the application, so it may be exposed to the user and other applications on the user's device.

GRANT TYPE: RESOURCE OWNER PASSWORD CREDENTIALS

With the resource owner password credentials grant type is used with trusted Applications such as those owned by the service itself, the user provides their username and password to the application, which uses the credentials to obtain an access token from the service. This grant type should only be enabled on the authorization server. It should only be used if the application is trusted by the user.



Authorization Code Grant Flow diagram

GRANT TYPE: CLIENT CREDENTIALS

With the Client Credentials grant type used with Applications API access i.e. the user provides their client id and client secret to the application, which uses the credentials to obtain an access token from the service. The application requests an access token by sending its credentials, its client ID and client secret, to the authorization server.

oAUTH SECURITY MODELS

1. Client Impersonation

A malicious client can impersonate another client and obtain access to protected resources if the impersonated client fails to, or is unable to, keep its client credentials confidential.

2. Phishing Attacks

Wide deployment of this and similar protocols may cause end-users to become inured to the practice of being redirected to websites where they are asked to enter their passwords. If end-users are not careful to verify the authenticity of these websites before entering their credentials, it will be possible for attackers to exploit this practice to steal resource owners' passwords

3. Cross-Site Request Forgery

Cross-site request forgery (CSRF) is an exploit in which an attacker causes the user-agent of a victim end-user to follow a malicious URI to a trusting server.

4. Click jacking

In a click jacking attack, an attacker registers a legitimate client and then constructs a malicious site in which it loads the authorization server's authorization endpoint web page in a transparent iframe overlaid on top of a set of dummy buttons, which are carefully constructed to be placed directly under important buttons on the authorization page. When an end-user clicks a misleading visible button, the end-user is actually clicking an invisible button on the authorization page (such as an "Authorize" button). This allows an attacker to trick a resource owner into granting its client access without the end-user's knowledge.

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Dark Net

The Hidden Side Of Web

Dark Net is a specific part of the hidden Web where one can operate in total anonymity. It isn't illegal to browse the dark web in most countries, but using some of the dark web services can be illegal. Access of dark web is a little like stepping back in time to the early days of the internet as the sites are often rudimentary in style. Search engines such as TOR, I2P and Freenet are used to access Dark web

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Edited by
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Whenever someone searches any text or image through any commercial search engine like Google, Bing, Yahoo etc., within flick of seconds, one is shown links of lakhs of web pages containing information that is searched for. One may or may not be satisfied with links returned, but these links returned are from only 4-5% of the information that is available in the cyberspace. Shocking indeed, but it is akin seeing the stars in the sky but there is more than meets the eye. The Universe is full of different galaxies that stretch further than you could imagine. The average computer user with an Internet connection has access to an amazing wealth of information. But there's also an entire world that's invisible to your standard Web browser.

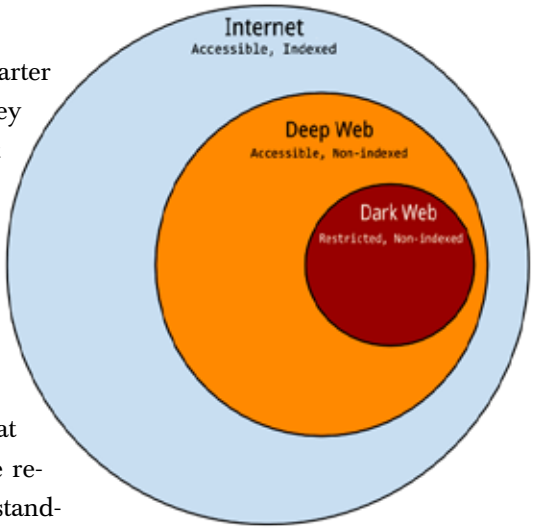
With search engine getting smarter day by day to the extent that they can predict your search, suggest you pages matching your requirements, track your search history, still they show infinitesimal of the Information out of what is available. Some studies conducted even say search engines show about 1% of what is available online. Where is the remaining information? For understanding that let us dig deep into the cyber world.

The Internet space is divided into three layers of Surface Web, Deep Web and Dark Net or Invisible Net.

THE SURFACE WEB

The normal search engines like Google, Yahoo, Bing, Firefox search by crawling the links available which someone has published with a URL or website address. If a web page has no link, it can't be crawled or indexed. The page would not appear as a result on a search engine.

Because search engines browse the surface of what's available online, the websites they show on their results pages are part of what's called the Surface Web. Using search engine is like scanning the horizon with your naked eye.



The three layers of Internet space

THE DEEP WEB

The Deep Web is anything not accessible through the commercial search engines. This is the portion of the web that constitutes the maximum of web space. Deep Web pages include information protected by a login, a website database, or a page that doesn't have a link. This information is meant to be private, so those sensitive web pages aren't crawled by search engines. You actually access the deep web routinely, every day. The emails in your Gmail account, your online bank statements, your office intranet, direct messages in Twitter, photos you've uploaded to Facebook and marked as private. These are all the deep web.

Anytime you log in to an account, or search for information directly on a web page, you're getting access to Deep Web content that won't show up on a search engine. And that's a good thing. If someone Googled your name, you wouldn't want your banking information or Amazon wish list showing up in results. That information is meant to be private, so those sensitive web pages aren't crawled by search engines.

Next time you do a Google search, keep in mind that you're seeing a very limited version of what's available in cyberspace. Sure, you'll be glad you can't see it all. But if you want the best view of what's out there, you need access to databases that Google can't show. Start searching the Deep Web today!

THE DARK WEB

Dark net is a specific part of that hidden Web where you can operate in total anonymity. Without being tracked, on negative side, people can access websites that sell drugs, weapons and they can even hire assassins, but on the positive side, it can be used by whistle blowers, journalists to alarm government agencies about something happening illegal that is about slavery, child labour, human trafficking, prostitution etc. or political dissidents who want to evade government censors. It isn't illegal to browse the dark web in most countries, but using some of the dark web services can definitely be illegal.

Constituents of the three layers of Internet space

HOW TO ACCESS DARK WEB

The TOR (The Onion Router) Browser is the main application for accessing the dark web. The onion metaphor indicates the layers of security that work to conceal a user's location, and the browser enables you to access hidden web sites with the .onion domain suffix. In the mid-1990s, US military researchers created a technology that allowed intelligence operatives to exchange information completely anonymously.

The TOR network is a collection of "volunteer" computer networks that send users' encrypted traffic to multiple servers before pulling up content. That way, a user's browsing session is so jumbled up, their identity and location is almost untraceable.

Usually, when you visit a website, your Internet service provider can see that you are visiting that site. If you use TOR, the location that you appear to be in will change. For example, you can be in USA and send your traffic through Germany, Sweden and Russia, and the website that you're visiting will see that someone in Russia is visiting, not you in USA.

Using the dark web is a little like stepping back in time to the early days of the internet. Sites are often rudimentary in style, and there are few other search engines like I2P and Freenet beside TOR to help you find your way around. The best way to find sites is through directories such as The

Hidden Wiki, which maintains a list of many of them. It is also extremely slow, an inevitable side-effect of the anonymizing process. Sites also go down frequently.

DARK NET LEGALITY

After learning about the Dark Web, you may be tempted to use it, but have a question in mind whether it is legal or not? It is not illegal as such in most of the countries, though buying illegal products or viewing illegal content is punishable as per law. For example, Julian Assange, WikiLeaks is a notorious Dark Web site that allows whistle-blowers to anonymously upload classified information to the press and no charges for publishing the contents have been levied on him by any US Court. Even Facebook has a Dark Web site. Recently, the social media giant launched a TOR hidden service so users could avoid surveillance or censorship.

However proper care should be kept in mind before entering into it. Use TOR browser preferably, never visit any site to satiate your curiosity, use Linux Mint or Ubuntu or other version of Linux having full security features, put tape on your Laptop camera and lastly and very importantly do not mess, abuse or provoke anyone anytime.

CONCLUDING PERSPECTIVE

The dark web is a muddy arena, and even reading the descriptions of many of the sites can take you into extremely uncomfortable territory. And even though the dark web can take us into some murky waters, the primary tool for accessing it, TOR continues to have legitimate uses of its own. Most things, both online and offline, can be used for bad purposes, right? But that doesn't make them bad in themselves. The same is true here.

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Continued from Page 10

E-Gov Products & Services - E-Dashboard for Elections

FEATURES

- Populating data on e-Dashboard from authentic source in real time mode
- Monitoring and transparency in the entire system at different levels
- Swapping all traditional communication means (Phone/Fax/e-Mail) for dissemination of information and replaced with new live online e-Dashboard
- Statistical view of various parameters in instant mode
- Public view forwarding step towards transparent and responsive governance
- Contender for more such applications to be percolated under Digital India regime across the country
- Innovative and exemplary efforts of NIC-Haryana for other states in the country and can be rolled out in other states with minor modification
- Data repository of all winning candidates can be used as an application data for various governance activities

ADDITIONAL BENEFITS

- Government can reach out to all representatives through a broadcast SMS using the database ULB's representatives
- Any mobile based campaign in the interest of general public can be run using this database
- Database will provide a comprehensive framework to the Government for extending various welfare schemes and can be used for monitoring purposes further

ICT TECHNOLOGY & INFRASTRUCTURE USED

- Web Server: Windows Server 2008 enterprise (64 Bit OS) IIS 7.0
- Blade servers (E5530 2.4 GHz dual processor) with 32 GB RAM
- Database Server: Windows Server 2008 enterprise (64 Bit OS)
- Blade servers (E5530 2.4 GHz dual processor) with 128 GB RAM
- Internet Bandwidth: NICNET/ NKN 1Gbps connectivity (Hosted at NIC Haryana Data Centre)
- Software – ASP.Net with C# and database -SQL Server 2012 Enterprise, JQuery

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Centralized Antivirus Management

An Effective Approach for NICNET

In order to have a centrally managed antivirus solution for NICNET, National Informatics Centre has deployed three-tier architecture for Antivirus Management. One Antivirus Distribution/ Relay Server is deployed at each Bhawan/ State and a Central Antivirus Server is installed at NIC (HQ)

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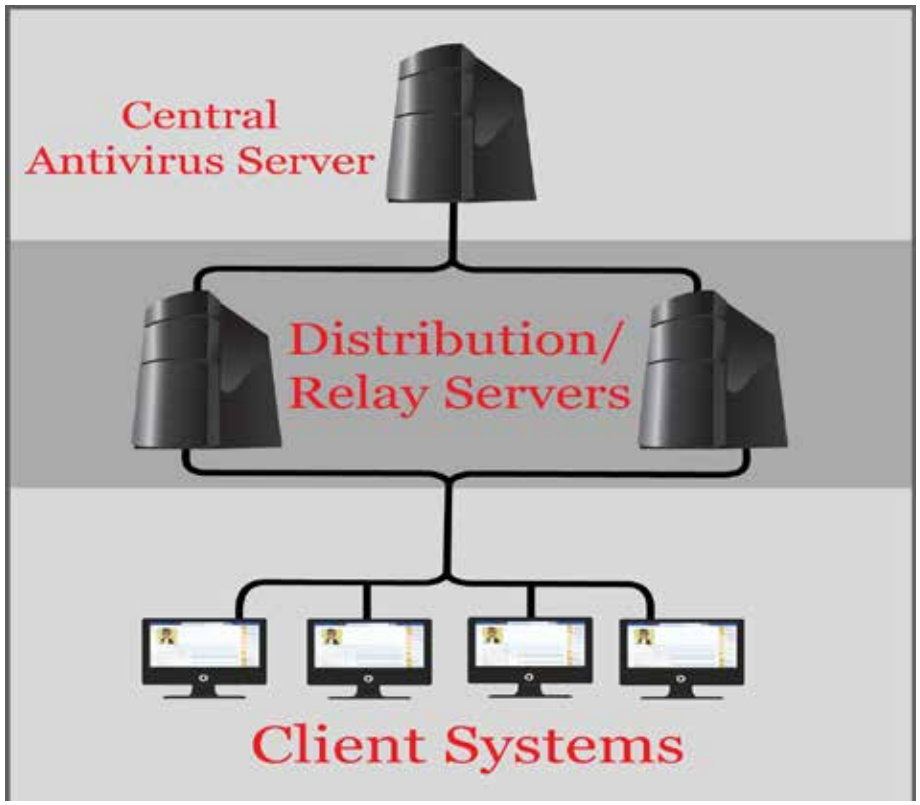
Centralized antivirus management technologies provide enterprises a bird's-eye view of antivirus defenses and establish applications that protect against unwanted malware and viruses. Contemporary distributed networking is a complex infrastructure of servers, gateways and workstations - in some enterprises, numbering thousands of nodes - all vulnerable to virus infections. The challenge to system administrator is keeping the antivirus applications on all of these systems updated and properly configured before the systems are infected with the next variant of viruses, worms, Trojans, bots and Ransomwares.

Centrally managed antivirus solution enables constant monitoring of the antivirus status on the client systems thereby ensuring latest antivirus signature pattern on the systems. Where the latest signature is not able to provide security, the infected system is analyzed further and new signatures are developed by taking up the matter with the antivirus Lab of the OEM (Original Equipment Manufacturer). This is a continuous process.



Architecture of NIC's Centralized Management of Antivirus

VISIBILITY OF ALL END POINTS

The basic feature set of all antivirus management suites is the ability to see all users on the network, know what antivirus application versions they're running, efficiently and expediently update virus signatures and policies, and receive threat alerts and other reports.

SIGNATURE UPDATES

In order to have a Centrally Managed Antivirus Solution for NICNET, NIC has deployed three-tier architecture for antivirus management. Antivirus client software is installed in each computer connected to NICNET, Antivirus Distribution/ Relay server is deployed in each Bhawan/ State and a Central Antivirus server is installed at NIC (HQ). The logs from the Bhawans/ State level antivirus server are sent to the Central server and are analyzed on a regular basis. These logs are further correlated with the logs of the other security devices (UTM and IPS). Based on this analysis, a report of defaulting IP addresses that either do not have the antivirus or have outdated antivirus signatures is generated and corrective action is taken/ recommended on such systems.

CENTRALLY MANAGED ANTIVIRUS ARCHITECTURE

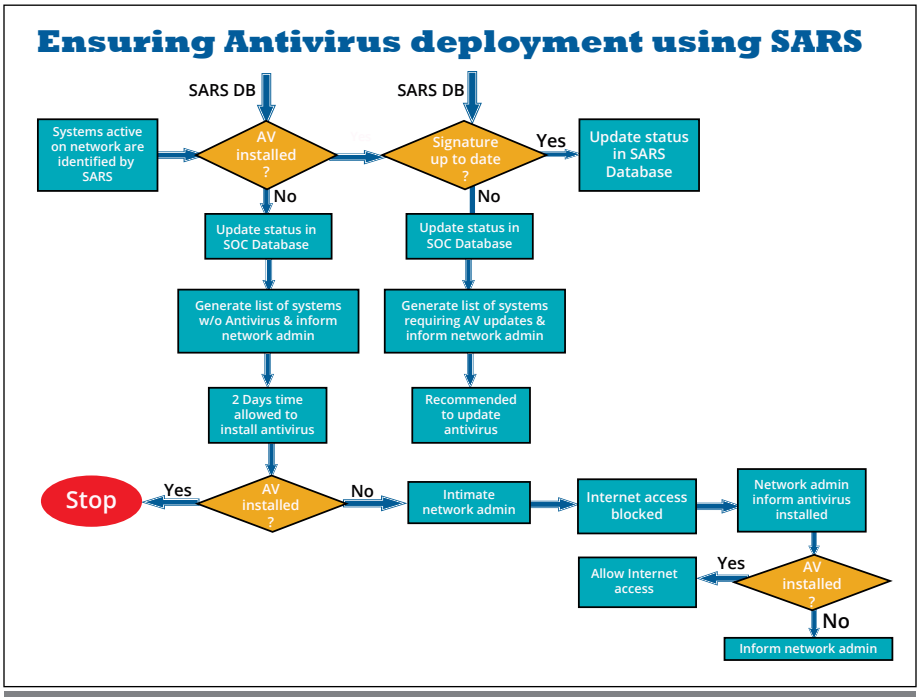
Besides the antivirus log correlation, the Security Monitoring Team on continuous basis also analyzes the network access behavior of the client systems. With this analysis, systems generating suspicious traffic on the network are identified. If antivirus is not installed or is not up-to-date on the identified systems, corrective action is taken/ recommended for the same. The analysis, at times, indicates that the systems depict suspicious behavior despite having up-to-date antivirus signatures. For such systems, where the signatures are up-to-date but still generating suspicious traffic, logs and system information is collected. Using this system information, logs and suspicious files the development of new signature pattern takes place with the help of Antivirus Lab of the OEM. It may be noted that NIC has an arrangement with the Antivirus OEMs (whose solutions are used in NICNET) under which the OEM has an obligation to analyze the logs and develop antivirus signatures.

LIMITATIONS OF USING THIRD PARTY ANTIVIRUS COMPARED TO CENTRALLY MANAGED ANTIVIRUS SOLUTION USED IN NICNET:

If systems do not have centrally managed antivirus, there is no way to ascertain if such systems are installed with any antivirus at all in the first place and even the support person would not be in a position to ascertain the antivirus status without physically going to each of the systems. If at all such a system is running with antivirus solution (other than the centrally managed antivirus solution), there is no mechanism to ensure that the signatures are kept up-to-date. In the absence of a service agreement with the antivirus OEM, it would not be possible to take up the matter with concerned antivirus OEM for the development of new antivirus signatures. NIC has deployed Centrally Managed Antivirus Solution of one OEM per Bhawan/ State/ Location for ease of management and monitoring.

POLICY ENFORCEMENT

Updating signatures is part of the challenge of managing antivirus defenses on large, distributed networks. If users disable their virus scanners - say, to install a new piece



Process of ensuring antivirus deployment using SARS

of (often unauthorized) software - they can create gaps in the antivirus protection.

Centralized Antivirus Management enables efficient enforcement of security policies by providing mechanisms for routinely applying product patches and upgrading software, scanning systems for malware, and configuring antivirus application settings.

Centralized management solutions can also push policy and configuration changes to the client, restart disabled scanners and deploy new antivirus software. In some cases, the management console can remotely install new software and reboot the client.

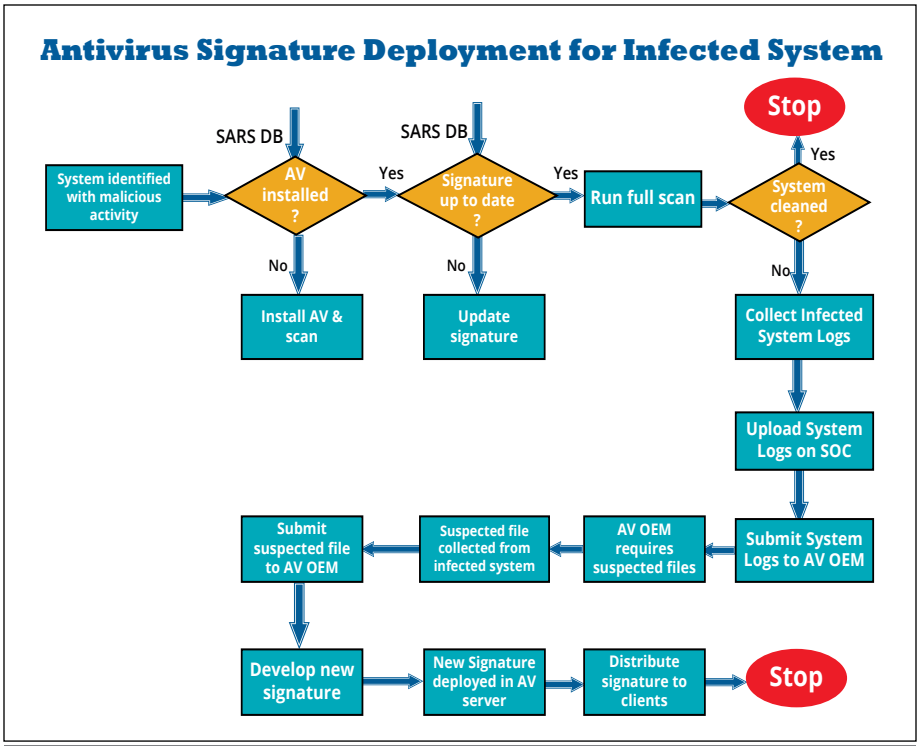
ALERTING FUNCTIONS

Time is of essence when new viruses are discovered in the wild. Administrators must implement mitigations and update signatures before the virus or worm enters the network. Most management consoles come with alerting mechanisms that tell administrators when their antivirus devices encounter a threat.

If new signatures are available, they can push the signatures out to the antivirus clients. If signatures aren't available, they can quarantine the point of infection to keep the malware from spreading to the rest of the network.

REPORTING AND ANALYSIS

Antivirus solutions deliver statistics on the number of viruses they detected, deleted and quarantined. Antivirus management consoles can collect and aggregate those statistics, as well as other operational information, for analysis.



Process of Antivirus Signature Development for infected system

Antivirus logs and reports can show the devices and network segments most often targeted, and how well the antivirus defenses perform. Such information can help administrators identify and correct soft spots in their security infrastructure. And policy compliance reports show which users are opening gaps in the antivirus defenses.

SECURITY ALERTING AND REPORTING SYSTEM (SARS)

NIC has developed in-house software i.e. Security Alerting and Reporting System whose primary function is collecting, compiling and analyzing the IP addresses passing through various security devices and correlate with their antivirus status observed in the respective antivirus solutions.

This application also sends alert messages to the security administrators positioned at Bhawans and States for problems rectification such as installing the antivirus on endpoints, updating the signatures where signatures are not updated, collection of logs of the endpoints etc.

CONCLUSION/ SUMMARY/ WAY FORWARD/

Thus it is clear from the above discussion that running standalone antivirus solution on the endpoints does not assure security. Hence, in a nation-wide network like NICNET, centralized antivirus solution is the best option to protect the endpoints from viruses, worms, bots and malwares.

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In the News

Workshop On COMPDDO Software For CWPRS Held At Pune

A two day workshop on COMPDDO software *version 4.0* for Central Water and Power Research Station (CWPRS) was conducted from 7th to 8th June 2016 at National Informatics Centre Sofware Development Unit, Pune. The workshop was attended by 20 participants from CWPRS.

The COMPDDO software has been developed by the Accounts Informatics Division of NIC. The sotware takes into account of all the functionalities of the DDO of Central Government Offices. During the workshop-training, modules such as Masters, Salary, Salary arrears, DA arrears, Income tax, Bonus, OTA, Contingency and other bill utilities of the software were explained using live data. The COMPDDO Software has already been implemented at CWPRS for 850 staff members.

Participants and organisers of COMPDDO software workshop

Shri P.S. Solanki coordinated the workshop with CWPRS and the training was conducted by Shri R.B. Bhute (SSA) NIC along with Shri S.G. Kulkarni (PSA) NIC-SDU Pune.

R.B. BHUTE, PUNE

Open Government Data Workshop on 'Data Driven Decision Making'

A workshop on 'Data Driven Decision Making' was held on 7th January 2016 at India Habitat Centre, New Delhi. Shri J.S. Deepak, former Secretary, DeitY inaugurated the workshop. Representatives from various Ministries/Department, Community, Academia and Researchers attended the workshop.

'Data Driven Decision Making' envisages collection and analysis of data to help decision-making for improved success rates. Governments can be more efficient with the readily available information and data to identify the pertaining issues and derive efficient solutions. As per the mandate of GoI Open Data initiative to provide proactive and open access to the data available with various Government departments, more than 26000 open datasets have been published on the OGD Platform, data.gov.in

The workshop included various sectoral presentations and panel discussions. The sectoral presentation session-'Data Driven Decision Making: Sectoral Perspective' was chaired by Dr. K. Somasundar, Scientist- G, Ministry of Earth Sciences. Shri Suresh Chandra, Law Secretary, Dept. of Legal Affairs chaired the second panel discussion-'Open Government Data Use License' for Commercial and Non-Commercial use. The third discussion-'Data Contribution by

Ms Alka Misra, Scientist-F, NIC addressing the distinguished guests and delegates

Community'; If Community should be allowed to contribute data on the OGD platform was chaired by Prof. S. N. Sarbadhikari, Project Director, National Institute of Health and Family Welfare.

The discussions shed light on the need to use data in order to take informed decisions, need of the Open Government Data Use License and various aspects of open data contribution by the community. The workshop was conducted by the Open Government Data Division of NIC. The event details can be accessed at **https://data.gov.in/event/data-driven-decision-making-cdo**

SUNIL BABBAR, NIC HQ

Sikkim Open Government Data Portal Launched, Workshop Held At Gangtok

Hon'ble Member of Parliament (Lok Sabha) Sh. P. D. Rai launched the first Open Data Portal using OGD Platform Software as a Service (SaaS) (https://sikkim.data.gov.in) for Sikkim Government on 10th June 2016 at Gangtok, Sikkim. A workshop on Sikkim Open Government Data Portal was organized fromJune 10th to 18th 2016 at AATI Conference Hall, Gangtok, Sikkim for Chief Data Officers and Data Contributors from selected State Departments by IT Department, Govt. of Sikkim in association with Open Government Data Platform Team of NIC

Officials from Department of Rural Management & Development, Department of Health, Department of Economics and Statistics (Monitoring & Evaluation),Department of Human Resource Development, IT Department, Department of Agriculture, Gangtok Municipal Corporation and Cyber Village attended the workshop.

Launch of Sikkim Open Government Data Portal by Hon'ble MP (LS) Shri P D Rai (extreme right)

Awareness and Training Sessions on Open Data Portal and its various features were organized. More details are available at the 'Events' section of OGD Platform (https://data.gov.in).

D.P. MISRA, NIC HQ

Integration of Digital Locker in e-District Haryana

e-District Haryana has been successfully integrated DigiLocker, a cloud-based platform for storing and sharing of documents and certificates digitally in a highly secured and isolated manner. This key initiative under the Digital India program of Government of India targets to achieve paperless governance, eliminating the use of physical documents.

By integrating with DigiLocker, e-District Haryana has become the first in the country for using the PULL model. PULL model is one of the two models of integration in which the issuer organization which does not have the Aadhaar ID of the citizen against the certificates/documents. Hence the citizen logs into his digital locker and pulls the document's link URI (Uniform Resource Identifier) and stores it by providing some parameters related to the document. As on now, 17 types of certificates and licenses under 11 categories are available for citizens to pull into their digital locker.

Citizen who signs up DigiLocker account gets a dedicated cloud storage space of 1 GB. Organizations registered

Demonstration of DigiLocker integration to Hon'ble Chief Minister of Haryana

under DigiLocker can push electronic copies of documents and certificates (driving license, voter ID, school certificates etc.) directly to the citizens' lockers or citizen can pull such documents from the organization's digital repository. They can also upload scanned copies of their legacy documents to their respective accounts. Citizens can electronically sign such documents using the eSign facility of DigiLocker.

DEEPAK SAWANT, HARYANA

e-Office Launched At Raj Bhawan, Patna

e-Office for Raj Bhavan, Patna was formally inaugurated by His Excellency, the Governor of Bihar, Shri Ramnath Kovind on 19th May 2016. Shri Bala Prasad, Principal Secretary to the Governor, Shri Rajesh Kumar Singh, SIO (Bihar) and other Government officials were present during the inauguration. Inception of e-Office at Raj Bhavan accomplishes the Governor's desire for streamlining the process and timely movement of files electronically.

Earlier, for the implementation of e-Office in Raj Bhawan Secretariat, NIC has submitted a proposal to Principal Secretary to Governor. The pre-requisite formalities accomplished at Governor Office and Master database such as Employee Master Details (EMD), Email IDs/ User IDs of officers and staff, File Header of different sections were created. Capacity building of officers and staff was organized at Raj Bhavan to understand the operational part of the application for smooth implementation.

e-Office software being demonstrated to His Excellency, the Governor of Bihar

During the occasion, Shri Bijay Kumar, PSA (NIC) demonstrated the e-Office software. His Excellency, the Governor appreciated NIC Officers for the successful implementation of e-Office at Raj Bhavan.

BIJAY KUMAR, PATNA

Hon'ble Minister For C&IT Launches e-Swikriti At Jodhpur

Hon'ble Union Minister of Communications & IT, Shri Ravi Shankar Prasad launched the e-Swikriti online software for building permission services of Jodhpur Development Authority (JDA) during the inauguration of e-services under various programme held at Hotel Taj Hari, Jodhpur. Shri Sudarshan Bhagat, Hon'ble MoS, Rural Development, GoI, Shri Surendra Goyal Hon'ble Minister for Rural Development & Panchayati Raj, Govt. of Rajasthan, Shri Jaswant Singh Bishnoi, President, Central Wool Board Jodhpur, Shri Gajendra Singh Shekhawat MP (LS) Jodhpur, Shri P.P. Choudhary MP (LS) Pali and Shri Ram Narayan Dudi MP (RS) were the other important dignitaries present. Mrs. Indu Gupta (DDG) NIC & SIO Rajasthan, Mr. Tarun Toshniwal (ASIO) NIC-Jodhpur, Pramod Kumar Singh (ASIO) NIC-Jaipur, H.S. Gehlot, (DIO) NIC-Jodhpur, Ravi Mathur (ADIO) NIC-Jodhpur were present at the event.

On the occasion, Hon'ble Minister released a brochure on the software and services. Shri Kailash Chand Meena IAS, Commissioner, JDA and other senior officers from District Administration attended the event. Ms. Indu Gupta spoke about NIC Jodhpur's outstanding contributions towards development and implementation of the series of services under JDA computerization project. She gave a presentation on e-Swikriti and other online services implemented at JDA.

Hon'ble MoCIT, Shri Ravi Shankar Prasad along with dignitaries at the inaugural function

H.S. GAHLOT, JODHPUR

Regional Transport Workshop held at Gangtok for Northeast and West Bengal

Hon'ble Transport Minister of Govt. of Sikkim, Shri DT Lepcha inaugurated a two-day North-east Regional Transport Workshop held on 12th and 13th of May 2016 at Gangtok, Sikkim. Shri SBS Bhadauria IFS, Transport Secretary, Govt. of Sikkim delivered the welcome speech. Keynote address was given by Shri Sanjay S Gahlout, DDG, NIC and Shri Priyank Bharti IAS, Director, MoRTH addressed the gathering. The workshop reviewed the latest status of National Transport Computerization (Mission Mode Project of Govt. of India) in the 8 North-Eastern States & West Bengal and discussed the implementation plan of related new technologies & products.

Attended by the transport Commissioners/ representatives of the participating States, the workshop has provided exposure on Vahan 4.0 & Sarathi 4.0, the central-server-based web applications and deliberated the strategies of implementation in the Northeast. eChallan, which is a comprehensive digital solution for the Traffic Enforcement System delivered through a mobile application (Android based) and web portal was also demonstrated.

Hon'ble Minister for Transport, Govt. of Sikkim, Shri DT Lepcha, lighting workshop's inaugural lamp.

Shri SBS Bhadauria IFS, Shri Birendra Chetri, SIO-NIC Sikkim and their teams successfully organized the workshop. Shri Joydeep Shome (Sr.TD) NIC, Shri Sanjay Mendiratta (PSA) NIC and Shri Ravindra Gautam (SSA) NIC of Vahan team made a presentation on the web-enabled Vahan 4.0. Shri BV Reddy (Sarathi 4.0 development team) presented the software features.

RUBAIYAT-UL ALI, GUWAHATI & DK BASNETT, SIKKIM

Launch of mGPF Mobile App For GPF Subscribers Of Govt. Of Tripura

Dr. Yashpal Singh, the Chief Secretary, Govt. of Tripura launched mGPF, a mobile App for GPF subscribers of Tripura Government on 20th May 2016 at Tripura in the presence of Shri K Nagraj, DGP, Govt. of Tripura and Shri S. Talukdar, PCCF, Govt. of Tripura. Many senior officers of the State Government were also present during the inaugural ceremony.

mGPF App provides vital GPF rule position with respect to eligibility, nomination, GPF subscription, advance, withdrawal, final payment and application/ enquiries. There are 83 thousand GPF accounts through out Tripura, which includes teachers and Government staff. GPF data accessed through the application are safe and secure as they are protected through unique PIN given to the subscribers.

Dr. Yashpal Singh, the Chief Secretary, Govt. of Tripura lighting the inaugural lamp

GPF account details such as current balance, credits, debits posted and missing credits to the subscribers are also available through mGPF. National Informatics Centre, Tripura, has developed this user-friendly Android based application.

DK BASNETT, SIKKIM