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Analysis of Who's Deploying What in IT | **Tech & Trends in IT Implementations** | **Top 10 Challenges in Deploying IT**

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COVER STORY

Best IT Implementations 2007

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SHOOTOUT
Featuring 25 Workgroup Laser Printers

We reviewed 10 color and 15 monochrome laser printers for small, medium, and large
workgroups. To help you find out the ones best suited for your requirements.

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TECH & TRENDS
Trends in IT Implementations

We analyzed the 250 IT projects that we received and figured out how
Indian companies are using IT. We analyze which industries are rapidly
embracing IT, what types of IT projects they're implementing, and what
sort of technologies they are using.

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IT STRATEGY
The Recipe for a Successful IT Project

We surveyed key CIOs and project heads of some of the largest IT implementa-
tions in India to find out how they manage their IT projects. You want to know
what it takes to become an IT project's head? Or what skills do project heads
look for when building their teams? Find out in this story.

Leading Edge

Anil Chopra, Editor

IT Usage Trends

Besides usual computerization and IT infrastructure deployments, we could see a lot of other interesting trends in IT usage after doing the Best IT Implementation Awards story this time. ERP, for instance, is moving beyond its regular set of industries, and into newer ones that have a completely different set of challenges and requirements. It's being used in the dairy business for instance, where the job not only involves milk procurement, but also handling cattle feed, plant maintenance and collecting animal information. It's being used in flour mills, where the key challenge is fluctuating grain prices. How should the mill get the best price from the 'mandi' is a tough call that ERP has to resolve. It's also being used in the education to automate all processes right from admission to timetable and courseware management. Poultry business is another segment that's embracing ERP.

Mobility is also putting IT to creative use. It's being deployed in areas where it's difficult to use computers and the Internet. In healthcare for instance, SMS is being used to cut communication time between the hospital, doctors, and patients. The power and utility sector is integrating GSM with their meters so that readings can be captured remotely. Another power company is sending billing and power breakdowns info to customers over interactive TV. A manufacturing company has integrated their ERP with an SMS based solution to exchange information with partners in real time. The irrigation department of Govt. of AP is using SMS to update the status of reservoirs in the state. A fertilizer company is using PDAs to collect orders from farmers and then use GSM to directly send them to a central ERP system. A financial services organization is collecting EMIs from farmers directly from their doorstep by generating a receipt and updating the central application over a GSM link.

Identity and access management is finding a different usage altogether. Many corporates are using RFID based identity badges for visitors. This way, visitors can only get into pre-defined areas on the company's premises.

These were just a few observations we made from the projects and nominations we received. We'd like to thank everyone for sending us their nominations. It not only helps us, but the whole industry out there in understanding how to use IT better. Presented in this issue are 250 IT projects. Plus, all the key stories in this issue are based on information from these projects. The strategy story for instance, takes views from key IT project heads on how to run an IT project successfully. The tech and trends story analyzes who's doing what kind of implementations and using what. The Enterprise solutions section covers a lot of IT projects in detail as well as the key challenges faced while deploying them.

We hope this issue helps you use IT better for your business. Happy reading! ☐

The Recipe for a
Successful IT

Anil Chopra

A CYBERMEDIA Publication

This year, for the Best IT Implementation Awards, we decided to go beyond our regular analysis of the various IT projects. We decided to explore other aspects of IT implementations as well. For this, we interacted with many of the IT project heads, to find out their secrets for managing a successful project implementation. In this interaction, we also got into non-IT issues like key skill sets that every IT project head must possess, how to choose and build the right IT team, which pitfalls to avoid, the challenges involved in running an IT project, and much more. Here's what we found.

A clear understanding of requirements

The first thing that we asked the IT project heads was to identify the single most important ingredient for a successful IT deployment. As it was an open-ended question, we received various kinds of responses. But most of them in some way or the other hinted at only one conclusion—a crystal clear understanding

Three things that any IT project head dreads to hear are missed deadlines, cost over runs, and unsatisfied user expectations. These can all be avoided if you use the right ingredients for managing your IT project. We tell you about some of them

Project

A CYBERMEDIA Publication

Relevance of possessing business domain knowledge for an IT project

0%	5%	16.28%	72.09%	6.98%
No answer	Not required	Should have a basic understanding of the business	Must have thorough understanding of business	Other
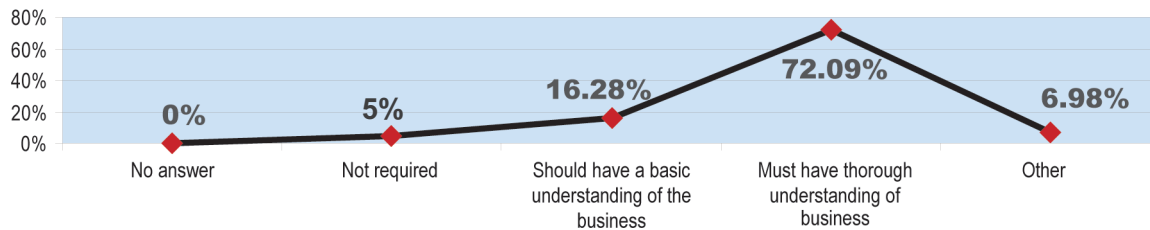
>>>> RapidFire

What's the worst pitfall one can get into while implementing an IT project?

"In complex integrations, compatibility and customization issues can be commercially exploited by vendors. This affects project timelines and cost."

Peeyush Agrawal, GM Broadband, MTNL

"One pitfall is when the key person who's driving the project leaves. Another is project delay. If you buy the latest hardware and software, but are late in implementing it, it's a serious concern."

Suresh A. Shanmugam, National Head–IS & Tech, MMFSL

"A major pitfall is when requirements keep changing requirements from the business perspective. Another pitfall to watch out for is providing incorrect projections."

Deepak Mudalgikar, Dy VP, HDFC Bank

"It's obvious. The biggest pitfall is requirement management."

Shantanu S. Chauhan, Chief Software Architect, ValueFirst messaging

"If we don't get a buy in from the users, then the project is bound to fail however good it may be in terms of design, architecture etc. Users are the best judges for the delivery."

Ravi M, Winfoware

of the requirement. What do you really want to achieve with your project? What's the killer need for doing it? That sounds like quite an obvious answer, you may say. But when handling complex deployments, the obvious often becomes obscure. So understanding the real requirement of an IT project is a must, but the fact is, it's easier said than done. Let's understand this with an example.

You may feel a strong need to deploy virtualization technology in your data center. You understand what virtualization technology is, and know that it can improve the utilization of servers in your data center. You could even reduce the downtime of your servers by taking backups of the virtual disk images of your servers.

The trouble is, your management does not understand this requirement, as it's too technical. So it has to be translated into tangible benefits that everyone can understand. For instance, one tangible benefit could be that you want to cut down significantly on the electricity and air-conditioning bills in your data center.

Or, you want to defer the purchase of new servers to the next

Relevance of possessing technical knowledge for an IT project

Chart showing percentages across five categories:

- No answer: 0%
- Not required: 0%
- Must have basic understanding of technology: 51.16%
- Must have complete understanding of technology: 46.51%
- Other: 2.3%

Y-axis scale: 0%, 10%, 20%, 30%, 40%, 50%, 60%
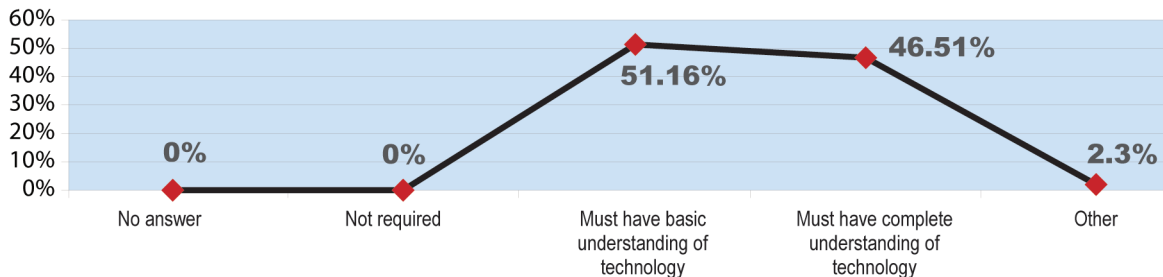
quarter. Both of these result in cost saving for the company, and are easily understandable. Now you can build a case on how virtualization technology can help you meet both or either of these requirements. A good project head would easily be able to define the real requirements for an IT project, no matter how large it is.

The right team attitude

The other critical key ingredient that the respondents hinted at was teamwork. Unless you have everyone pitching in, and willing to help out, the project just won't take off. Construction of the team is equally important.

Today, having an IT team alone isn't sufficient. You need to bring in all the stakeholders in the project, like customers/users, vendors, peers, and even the management. Everyone has some role to play in the project's success.

A user or customer would give real live feedback about the project, so the project head must be open to receiving all the criticism. Likewise, the management would steer the project towards delivering the business benefits. The vendors would help you identify

the requirements, and the IT team will help you put it all together.

But in order to ensure that everyone pitches in and does their role, the project head must have the skills to arouse interest amongst them towards the project. For this, it's essential that the project manager knows how to talk to different members of the team in a language that they understand.

So the management would mostly understand business lan-

guage, the IT team would be more comfortable with technical jargon, and the users prefer plain simple English (or even their local language).

Ability to build a team

We asked our respondents to identify the essential skills that every project head must possess to manage an IT project. Again, though we received a variety of answers, the key skill that emerged here was team management.

>>>>*RapidFire*

What's that single most important ingredient required to make an IT project succeed?

"A well-thought scoping, business case identification exercise and realization of various requisites that will be needed to succeed in the project implementation."

Ishwar Jha, Sr. Vice President - Business Technology, Zee Entertainment

"Good planning, design and the quality of people involved to the project execution."

Sunil Nair, Asst. Manager, Business Technology, Pfizer India

"A qualified and capable team."

Nair Prasad, Nagarjuna Group

Level of difficulty in getting budgets sanctioned

0
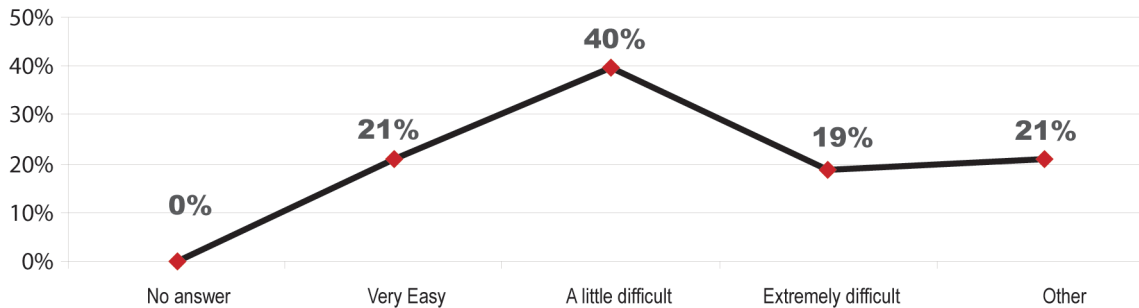
How well can a project head manage his/her team, mentor and guide them, and keep them motivated? You must be able to build a real strong team, and the only way to do that is to have excellent interpersonal equations with everyone.

There were three other key skills that emerged besides team building. One was that the project head must have a clear vision about the project and its deliverables, and the other two essential skills were business and technical knowledge.

We noticed an interesting pattern as far as business and technical knowledge were concerned. While most respondents wholeheartedly agreed that business domain knowledge was a must to run an IT project, they were not so unanimous when it came to technical knowledge.

Here, the opinion was split almost equally into two. One side said that only a basic understanding of technology is all that's required, while the other side said that a complete understanding of technology is essential for deploying an IT project.

>>>>RapidFire

When you build a team for an IT project, what skill sets do you look for besides technical expertise?

"Attitude, commitment, team player/spirit, proactive, and soft skills like good interpersonal skills, social grace, business etiquette, negotiation skills, and motivation."

Nataraj N, CIO, Aztecsoft

"Team work and expertise in different functional areas."

Vidur Kanodia, CIO, Precision Electronics Limited

"Every team member should be a good listener. They should also be able think out-of-the-box for the problems and they should work as a team."

Ravi M, Project Manager-Enterprise Solutions, Winfoware Technologies

"Team work, communication, business acumen, result orientation."

K R Sreenivasan, Head CRM & DMS Project, Tata Motors

Thankfully, nobody said that technical knowledge was not required at all! The bottomline is that IT deployment is increasingly being subjected to business norms, so the project head must have the requisite knowledge of business to do full justice to an IT project.

Commitment and involvement from team members

Besides the project head's own skill set, the team's skills are equally important. Ultimately, it's the team that will deliver the work, so it's important that you choose the right members for it. How do you do that? What skills should you look for besides technical expertise?

Again, while we received many responses to this, the key attributes that emerged were that each member should be a team player and committed. The person must be completely dedicated and committed to the job, ready to work over weekends, and under all kinds of stress.

As one of the respondents put it, the person must have fire in the belly. Interestingly, we also discovered that the biggest challenge IT project heads face with their IT teams was finding the right people for it. Could there be a link?

Negotiation skills

One key skill that's essential for any project is the ability to negotiate. It's required at every stage of the project. Whether it's negotiating with the management for budgets, or it's negotiating

Who negotiates with IT vendors?

- 46% The CIO or project head
- 12% We have appointed a separate person for the job
- 9% Our administration department
- 33% Other
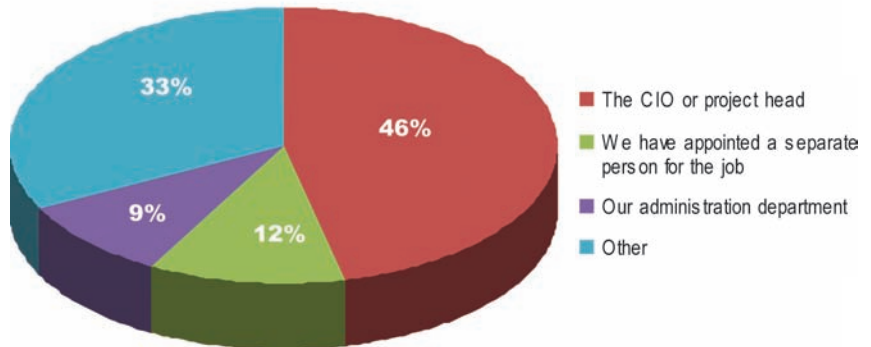
Biggest challenge with manpower

- 33% Finding the right manpower
- 23% Retaining the right manpower
- 5% Motivating the manpower
- 26% Getting the team to deliver on deadlines
- 14% Other
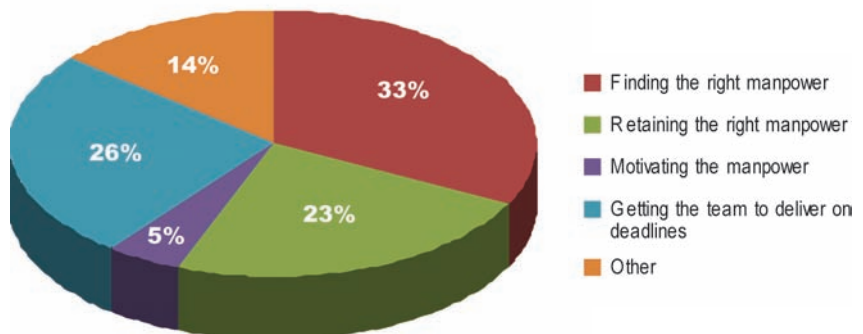
>>>> *RapidFire*

Do you need an IT background to head an IT project?

Not if the designations we received for this time's nominations are anything to go by. We received entries from everyone right from scientists, professors, doctors, to even police sub-inspectors. It's not necessary to have an IT background for running an IT project. If you look at the government projects especially, you'll find that people who don't have any IT background are running IT projects. Today, it's not a question of whether to use IT or not, but rather how to use it for the benefit of the organization. Anybody who can understand the business requirement and can manage a team can lead an IT project.

it strategy

Key Issue faced with vendors

- Ensuring timely delivery of products or solutions required for the project
- Finding the right vendor for the right task in the project
- Managing multiple vendors
- Other

12%
14%
39%
35%
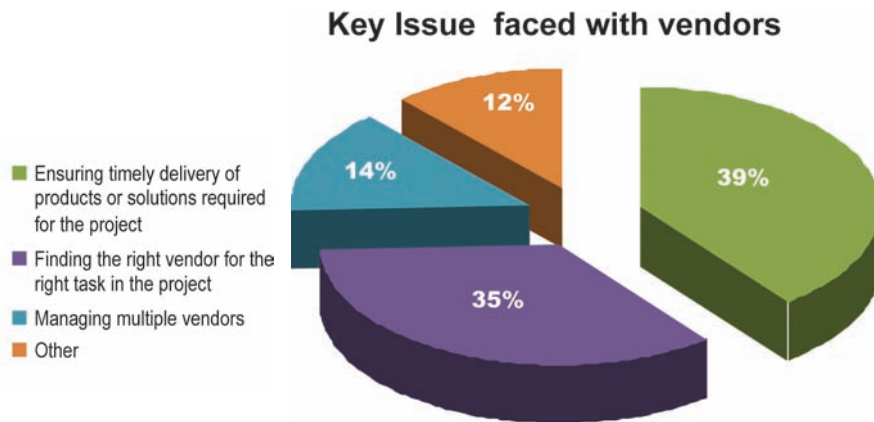
>>>>RapidFire

What was the biggest challenge you ever faced while managing an IT project?

"Organizational non-promotional interests and destabilization practices through administrative process."

M. Moni, Deputy DG (e-Governance Standards & Solutions), NIC

"Retention of team (key players) adapting to the new tech is a key challenge. Also closing and getting the sign off for the scope of the project is also tough."

Mahabir Bansal, DGM–IT, Moser Baer India

"Getting the project sanction from the management and getting the right manpower are the major challenges."

V. K. Marathe, AGM and Project Manager, Kores (I) Ltd

"Key users allocated by department heads for the project, who are normally the least purposeful kinds. The biggest challenge is to train such users and get them to deliver especially since almost all of them have a different attitude, aptitude and profile."

Chandan Sinha, CIO-GHCL Ltd

"Managing people is the biggest challenge. Getting the buy-in, getting explicit sign-offs and then most importantly managing the change that is unleashed in an organization after an implementation.

Rajeev Shirodkar, VP IT, Raymond Ltd

with vendors for IT equipment cost and services, you need to have the good negotiation skills. A good negotiator goes a long way in getting the best deal for the project.

If the IT project head doesn't possess good negotiation powers, then somebody in the team must have. In fact, we found that only 44% of the project heads we interacted with negotiated directly with IT vendors.

The rest had either appointed a separate person for the job, or there was a separate purchase committee responsible for the same. Some even let their administration department take care of it.

Vendor management

Proper vendor management is essential to managing an IT project successfully. Most of the large IT projects have several vendors involved, providing different hardware, software, and services. Ensuring that they work together in harmony is a key skill that every project head must have. The vendors should be willing to go that extra mile to support you. For this to happen, you must ensure that all vendors deliver their part of the work, be it products or services, on time.

To find such a vendor is of course another task. Most of the project heads we interacted with were stretched between these two extremes as far as vendor management goes. This brings us to the end of this section. In the pages to follow, we've analyzed the IT implementations in more detail. □

Tech & Trends

IT Implementation
Trends

Anil Chopra, Anindya Roy and Sanjay Majumder

What kind of IT implementations are happening in India? Which technologies, hardware, and software are being used? We analyze based on the 250 projects we received for the Best IT Implementation Awards

Going by the nominations we received this time for the Best IT Implementation awards, it seems that the manufacturing segment was the most active in terms of deploying IT last year. The highest number of IT projects came from this segment. Next in line were the Govt. and BFSI sectors, which continued to remain sunrise sectors. Together they constituted more than 30% of all the projects. Interestingly, there weren't as many IT projects from the IT/ITES segment as the other three. IT/ITES only constituted about 10% of the overall projects. Amongst the remaining sectors, the surprise packets were education and power & utility. Both segments have become 'rather innovative' users of IT. For instance, one of the utility companies created a GIS map of North Delhi, which captured every detail

Tech & Trends

% Projects by Industry

Industry	Value
Manufacturing	~19
Govt.	~17
BFSI	~16.5
IT/ITES	~9.5
Education	~5.5
Power and utility	~5.5
Transport	~4
Telcom	~4
Petroleum	~3
Pharma	~3
Healthcare	~3
Other	~3
Real Estate	~2.5
Travel and Tourism	~2.5
Agriculture	~2.5
Media	~1.5
FMCG	~1.5
Multi-Vertical	~1.5
Development	~1
Logistics	~1
Retail	~0.5
Instumentation	~0.5

mented an ERP package, which incorporates all govt. policies and practices. So there seems to be a lot of action in the education sector, and one is likely to see more in the future.

Types of implementations across industries

Out of all the different types of projects done in the manufacturing segment last year, ERP projects topped the charts. A lot of manufacturing companies embraced ERP. Workflow automation and infrastructure projects were the other key project types taken up by the manufacturing sector last year. Likewise, the Govt. continued to have a strong focus on e-governance projects. A lot of govt. departments and ministries were busy building up their IT infrastructures by introducing workflow automation, setting up new information systems and portals, HR management solutions, mobility solutions, etc.

As far as IT/ITES companies go, then unlike others, they continued strengthening their respective IT infrastructures. The maximum projects that were implemented in this segment were related to IT infrastructure. The in-

down to the last street. On top of this map, the company mapped each and every piece of electrical equipment that they've laid out, down to the last lamp post. They

GSM modem for all their commercial customers. This helps them remotely track how much electricity is being consumed by each consumer. Now that's innovative!

In manufacturing, a majority of projects were ERP deployments and in Govt, it was e-Governance

say that this project helps them track their assets, as well as address customer complaints better, apart from many other benefits. Another company that does power distribution in West Bengal has put tamper proof meters with a

Similarly, in education, one engineering college in the south has developed and deployed an ERP package using completely Open Source software, and uses it for a lot of things. Another govt. owned research institute also imple-

teresting thing was that they used some of the latest technologies, and we even had the benefit of seeing some of those this time. They used virtualization, latest consolidation techniques, the best data center equipment, the latest □

Tech & Trends

Types of Projects (%)
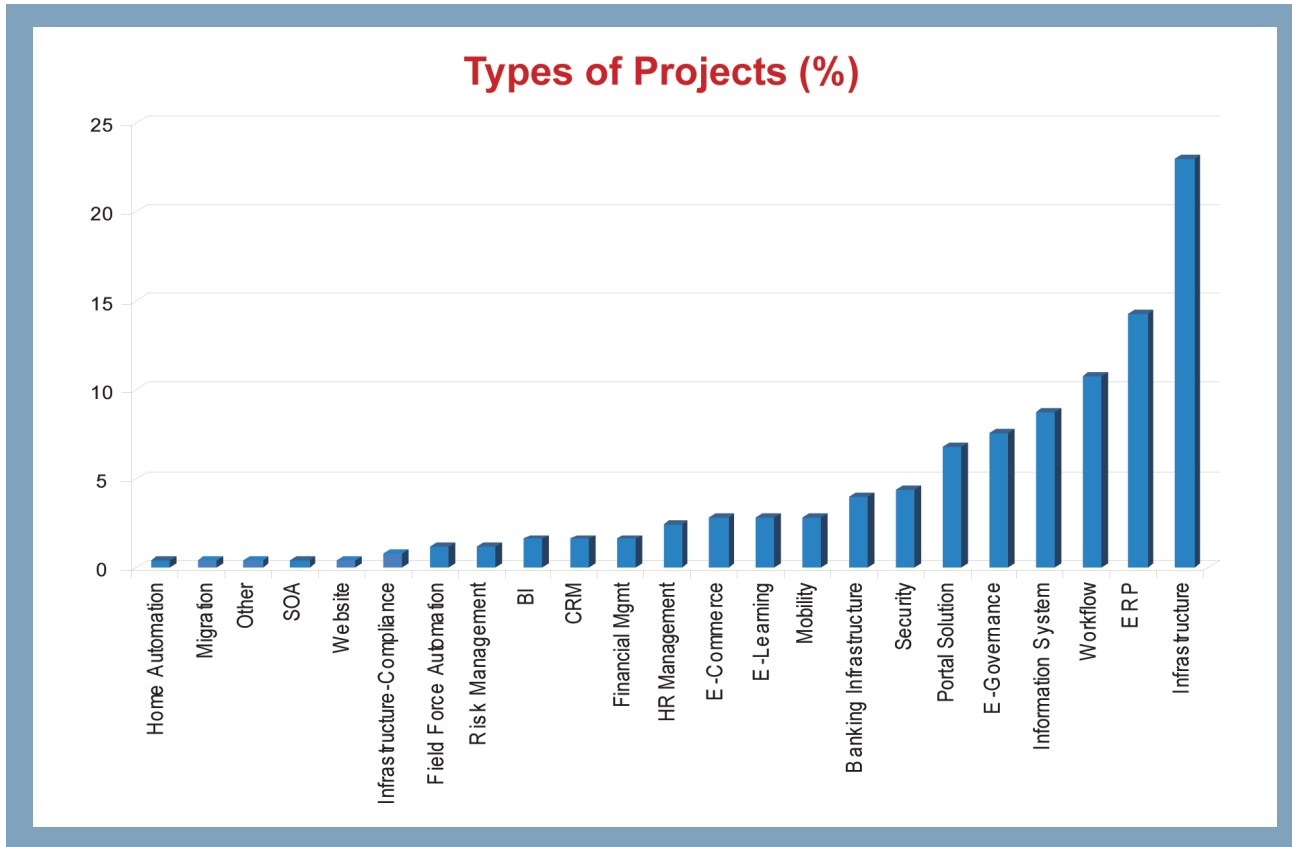
WAN technologies, and much more to ensure that their IT infrastructures are world class.

Last but not the least is the BFSI segment. This segment was not only busy upgrading its IT infrastructure with the latest technologies, but was also busy doing

ing an increasing concern. We noticed many banks deploying information security solutions. The insurance sector, which hasn't really embraced technology as much as the banks till now, seems to have woken up. Many of the public sector insurance companies are

towards improving their internal processes. Hence they're into workflow automation.

That was all about the overall project implementations that we observed across the country. Let's now drill a little deeper into the kinds of technologies and trends

BFSI was busy doing Infrastructure upgrades and core banking deployments

a lot of other things. We noticed a lot of banks moving to core banking solutions. This is good news for customers because it will enable them to do banking from any of the bank's branches. Besides core banking, security is becom-

trying to get more networked, and some are even using MPLS technology for connecting their branches. The more tech savvy companies in BFSI, who have already done all the networking, core banking, etc are now looking

being used by IT projects.

Technology usage

While going through all the projects we received, we came across some very interesting trends in the technologies be-

□

Tech & Trends

ing adopted by organizations for their projects.

MS .NET for Portals

Most of the portal solution projects that we received were developed using ASP.NET or VB .Net. We spoke to the project heads of these portals to find out why they chose this platform. The answer was simplicity. According to them, creating projects on ASP.NET is mush easier and requires less code to write. Plus, it's very easy to find people who know how to develop on this platform. In fact, developers who can code in VB can easily shift to .NET without too much training. Interestingly, a lot of the public sector projects that we analyzed were also developed on .NET platform.

MPLS VPNs for WANs

We found that a lot of large enterprises with branches all over the country are moving towards MPLS VPN technology. The reasons quoted for this are a more se-

ment for key customers abroad have linked all their software development houses with MPLS. This helps their software development teams coordinate better on software projects.

Video conferencing being put to some serious usage

Video conferencing is finally being put to much more serious usage then mere remote meetings. In one of the projects, video conferencing was being used for tele-medicine and tele-education. This has a huge social impact, as you can provide healthcare in areas that don't have qualified medical practitioners. Apart from this, we also interacted with many CIOs who have implemented video conferencing, and saved huge costs and time that would otherwise have gone into travelling. SAIL for instance, conducts regular meetings at the director level over a VoIP based video conferencing system. Cisco has

pear on the screen in the same size that they would appear in person when sitting across a conference room table.

SMS based Mobility solutions

While we didn't get too many projects that are using these technologies, there is potential. The projects that are using GSM and GPRS technologies are quite innovative. It can be used as a connectivity option in remote areas. It makes sense to use this technology for communication simply because it's now becoming commonplace. Everybody has a cellphone these days, so a company can easily leverage it to communicate with customers. Some innovative applications of mobility that we found were remote meter reading, door to door order processing, and even banking at your door step.

The usage of SAN and NAS

From the IT projects we received, we noticed that organiza-

Many large enterprises are shifting to MPLS VPNs for branch office connectivity

cure and scalable network, better connectivity between multiple offices and higher bandwidth. This helps an organization consolidate its IT infrastructure and bring all of its remote offices under one umbrella.

Organizations are using MPLS for remotely managing their branch offices, doing remote patch and update management, VoIP, and even running their business applications. Some companies doing offshore software develop-

devised a video conferencing system called TelePresence. It's a high-end, room-based, video conferencing solution built to operate seamlessly with Cisco's VoIP architecture and products. It's designed around the IETF standards for Voice over IP and video conferencing. Namely, SIP is used for connection management and signaling, and RTP for media transmission.

The video images of the participants are life size and people ap-

tions are increasingly adopting storage appliances. There's also a growing need for secure and centralized storage in enterprises. 21% of the projects we received were using NAS boxes as file servers. Many of the portal solutions and information systems were using SANs for data storage. The storage capacities being used ranged from 1 to 5 TBs for the projects.

UTM appliances for security are gaining ground

The hot hardware in security

Tech & Trends

Project Types deployed by different Industries
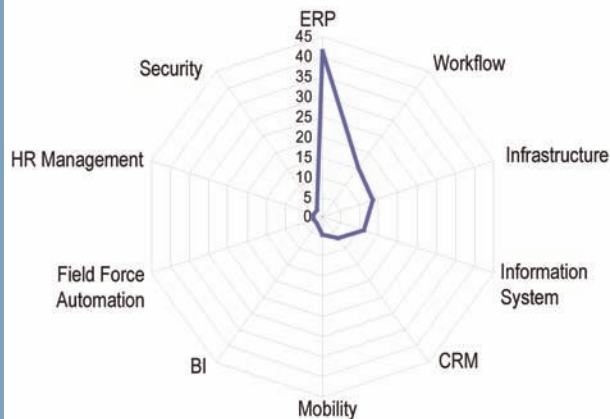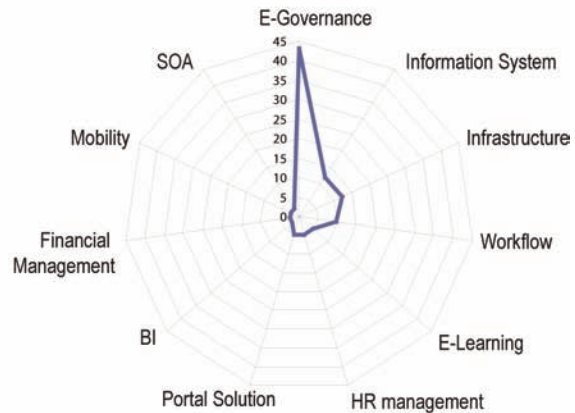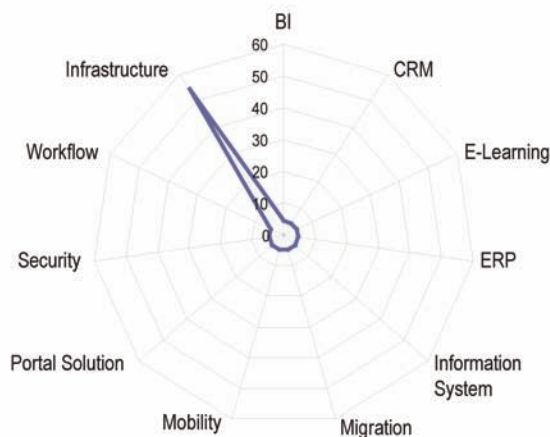
nowadays is the UTM (Unified Threat Management) appliance. Quite a few organizations have started deploying the same, or are planning to deploy it. This makes life easier for security managers, as configuring and managing a single UTM device is always easier than managing 5 different devices. One thing we noticed in some of the projects was that though they were using the best of breed UTM devices, they were not creating DMZs for their servers. What they're doing instead is very interesting. Instead of deploying a single UTM/Firewall appliance, they deploy two. One is deployed in the datacenter and connected to the Internet or leased line and the other is deployed in front of the proxy server for the LAN. In most of the cases, the datacenter doesn't even have a direct route to the LAN.

Tech & Trends

Rack servers have taken over

After seeing so many imple-mentations, we found that the humble tower based servers are vanishing. They're being com-pletely replaced by rack servers. Most of the servers we noticed were based on x86 architecture. 4GB RAM is now standard across all servers, and in case of special-ized applications like virtualiza-tion, we even noticed 32GB RAM being used.

Trends in software usage

On the software front, ERP im-plementations are happening like jungle fire. A lot of companies are moving to ERP for automating their internal processes. We re-ceived quite a few projects for SAP and Microsoft Dynamics imple-mentations. ERP is also entering newer verticals. For instance, there's an ERP solution available for governments now. It's called GRP or Govt. Resource Planning, and it adheres to govt. guidelines and amendments out of the box. There was another ERP deploy-ment for a poultry business.

OS Usage across IT projects
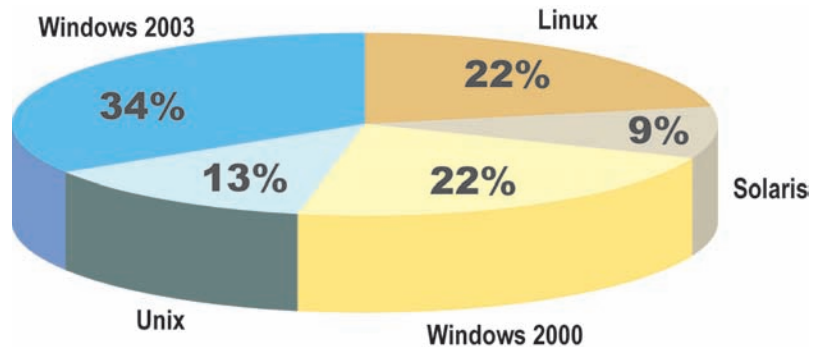
Despite all the hype, we didn't find too many virtualization de-ployments. One of them was a large consolidation exercise using virtualization, and another was more interesting and used it for disaster recovery. A software house put backups of all of its crit-ical applications on a virtual server. These were used for failover.

From the project forms that we received, we found 56% of the proj-ects were using Windows, which includes 34% Windows 2003, and 22% Windows 2000 Server. There were around 24% projects that were using Linux. Based on feed-back from some of the project heads, the key reason for using Linux is not the source code, but cost saving. But one area where Linux is still widely being is em-bedded applications. A lot of de-vices being used in IT projects run on Linux. UNIX usage was lower at 14% and Solaris at 9% amongst the projects that we received.

These were some of the trends we observed from the IT projects we received. In the pages to follow, we'll take you through the specific project implementitions and the benefits they offered.   □

PIMS PCQuest Instant Messaging Service

Price: Rs 2,500 (1 month warranty)

Key Specs: Generates photo badges for visitors and detailed visitors report

Contact: Soft-AID Computers, Pune. Tel: 25447802. E-mail: support@libsuite.com
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and the award goes to...

Overall Best

WONDERS,
HDFC Standard Life

Maximum Business Impact

Enterprise Mgmt System,
Punjab National Bank

Most Challenging Implementation

GIS Online, North Delhi
Power Limited

Maximum Social Impact

Tele-Education, AIIMS

Most Innovative

TCENet, Thiagarajar
College of Engineering

Most Innovative

Remote Meter Reading,
WBSEDCL

PCQuest Best IT Implementation Awards 2007

Adeesh Sharma, Anil Chopra, Anindya Roy, Manu Priyam, Rinku Tyagi, Sanjay Majumder, Saurangshu Kanunjna and Swapnil Arora

Here are 22 industries, 23 project types, and 250 nominations—all vying for only one thing—the PCQuest Best IT Implementation awards 2007. We take you through some of the top IT implementations across the country along with views of some of India's top CEOs, COOs and CIOs

Increasingly, more organizations are realizing the power of IT, and are using it in innovative ways. It's no wonder then, that this time we received more than 250 projects for evaluation. These came from 22 different types of industries, ranging from the usual mega-IT spenders like Govt, BFSI, manufacturing, petroleum, and IT/ITES to niche ones like poultry, travel and tourism, real estate, construction, power and utility. With so many projects, there was likely to be a lot of variety. We were able to identify 23 different types of projects, ranging from the usual IT infrastructure and ERP deployments to projects like controlling appliances over the Internet, e-learning, mobility, security, etc. Now that's quite a mouthful, and it's taken us many months of efforts to go through all of them.

The Best IT Implementation awards are now four years old, and every year, the number of nominations we get has been increasing by leaps and bounds. The process for the selecting winners awards remains the same. We open up public nominations sometime in Feb-March inviting everyone to nominate IT projects. This time, we sent out e-mail invites to more than 2 Lakh people. There's a defined qualification criteria for nominating a project. For one, it should have become operational by the last financial year. Second, the project's benefits should be available to Indian audience, though the physical infrastructure could be located anywhere in the world. Third, projects that were still in a pilot stage were not considered for the awards.

This time, we received more than 290 public nominations. We did one round of scrutiny and validation to eliminate invalid and duplicate entries. This brought down the total entries to 250. This entire list of 250 projects was then shared with the jury members. They were requested to go through the same and provide us with their suggestions. They were also requested to suggest the addition of any projects that we may have not received.

The project heads for all the 250 nominations were sent a detailed audit form to fill up and send back to us. This is a questionnaire that collects detailed information on background, concept, business case, people involved, project architecture, technologies involved, consultants, timelines, financials, etc. Some of the information we collect in this is marked as confidential and is not disclosed. We received back about 96 of these audit forms. Here, entries that came in within the specified deadlines were considered first, and for those that came late, we tried

our best to incorporate them. Some of the late entries were dropped at this stage. *PCQuest* then appointed an internal champion for each of the projects. It was then the champion's responsibility to understand the project and present its case to the jury. For this, each project champion tried contacting the heads of all projects assigned to understand the projects better and get details. The champions spent a considerable amount of time travelling all over the country, meeting as many project heads as possible and seeing the implementations in action. Again, some projects were dropped because their documentation was incomplete and their project heads were not reachable for comments. Some other projects

were dropped due to confidentiality issues. For the remaining, once the meetings and telecons were over, the team did another round of scrutiny and validations to remove any further invalid entries. We found that some projects were still in their

> We received more than 290 public nominations. The PCQuest team did one round of scrutiny and validation to eliminate invalid and duplicate entries. This brought down the total entries to 250.

pilot stage and could not be considered for awards. Some dropped out due to confidentiality issues.

Once all the meetings and interactions were over, the *PCQuest* team sat together and shortlisted the remaining projects to present to the jury. This year, 21 projects were presented to the jury. The jury then

decided the final winners. The jury has representation from past year's winners, IT users, and the IT industry. It's also free to recommend any additional awards.

The pages that follow cover all valid nominations we received. We start off with the winners, followed by all the projects for which we'd received the filled up questionnaire. We also interacted with some of the IT industry's most respected CEOs, COOs, and CIOs. They take us through the state of IT implementations in India, how they're moving their organizations forward using IT, and message to others on the same.

We'd like to congratulate everyone for all the efforts they're putting into deploying IT projects, and we hope you enjoy reading this story as much as we enjoyed creating it.

BEST IT IMPLEMENTATIONS OF

The Jury

The last step in deciding the winners for the Best IT Implementation awards is the jury meet. The PCQuest team presents the shortlisted projects to the jury. Plus, A synopsis of what the previous year's juries have done and the yardsticks they used is shared with the jury. After that, it's up to the jury to decide the winners. The jury comprises of representatives from the IT industry, IT users, and media. One member of the jury is chosen from the last year's winners. Another thing that was ensured during the deliberations was to avoid any conflict of interest. So in case a jury member was involved in any of the projects, then that person was requested to withdraw from that particular discussion.

Dr. N. Vijayaditya, Controller of Certifying Authority, Govt. of India

Dr. Vijayaditya was the chairperson of this year's jury. He has more than 30 years of experience in handling a wide variety of govt. IT projects. He has been a member of several Technical Advisory Groups and several committees constituted by the Govt of India and State Governments.Prior to his current position, he was the Director-General in the National Informatics Centre. Dr. Vijayaditya holds a Masters in Comp Science and Ph.D in Information Systems from University of North Carolina, USA.
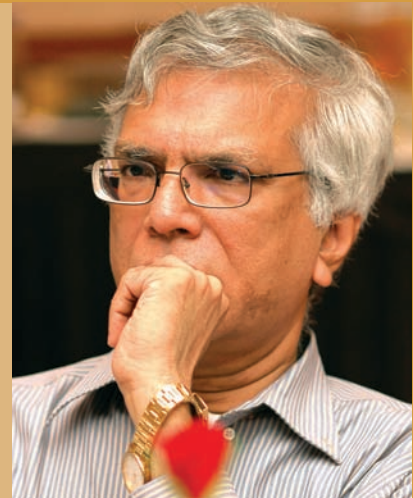
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C R Narayanan, VP (IT) D S Constructions

C R Narayanan started his career in 1976 at BHEL as a developer and then graduated to become the head of the Advanced Research Project Team. From there, he moved to ABB to head its IT operations. He has diverse expertise in IT deployment for business requirements, extensive experience in deploying SAP solutions, neworking LANs, WANs, leased lines and VSAT.

R B Das, Group GM, Center for Railway Information System

R B Das was head of the Freight Operations Information System project that won the Best IT Implementation Award last year. He has been with Indian Railways since 1981, and has worked with Indian Railway Traffic Service at various levels. R B Das is a Physics graduate with Masters in Sociology and Business Administration

Prasanto K Roy, President (ICT Publishing) Cyber Media

Prasanto has been with Cyber Media for 17 years. During this tenure, he has launched many new activities and projects. These include the PCQuest CDs, Computers@Home magazine (now Living Digital), the DQWeeks, and DQChannels. He's one of the finest technology writers, who's equally at ease with technology and business..

Ranjan Chopra, CMD Team Computers

Ranjan is a rare combination of an entrepreneur in action and philanthropist at heart. He started off Team computers in 1988 with some friends, and since then has developed the company into a leading IT infrastructure solutions provider.

Ravi Aggarwal, President Imaging & Printing Group, HP India

Ravi has been associated with the Indian IT industry for the last 3 decades. He has exposure to applications deployed across many industry verticals. He's also been on the executive council of MAIT and CII Delhi State Council. Ravi is an IIT, Delhi Graduate, and has also done advanced mgmt programs at London Business School.

BEST IT IMPLEMENTATIONS OF

Overall Best

HDFC Standard Life Insurance
WONDERS

Sunil Rawlani, CIO, HDFC Standard Life

He is an MBA (1988) and BS, Computer Science (1986) from Kent State University, USA. While his professional interests include Business Transformation, Technology Value Systems and Organisational Behaviour, he is fond of Photography and Music on personal front. He has 21 years of total work-ex with the likes of Standard Chartered Bank, ANZ-IT and Philips

"If you want to drive a cultural change in an organization, you have to address what is in a project for everyone involved."

Winners don't do different things, they do things differently. And that's precisely what this project has proved to be doing. The acceptance of the project from the users is very high on the scale of satisfaction as each one of them sees benefits from it for themselves and not only the organization. This implementation has not only eliminated paper from the office except two places—one where the actual policies come and are scanned, and two the warehouse where they are stored.

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This project is doing WONDERS and bringing to fore, capabilities of a BPM (business process management) system. It is an enterprise wide workflow system integrated with a Document Imaging System.

The system integrates with other existing front-end and back-end systems transforming as the backbone for the organization's process automation. WONDERS is one of its kind project that has managed to leverage the power of a BPM suite, make the users understand the benefits o using such a system.

Not only that, the deployment has brought about huge increase in the productivity and efficiency up-heavals. As much as 300% reduction (5-6 days to 1.5-2.5 days now) has been achieved in reducing TAT for processing new business cases and they have also been able to reduce the time taken in underwriting and handling queries by a good 40%. Right now, the complete working environment has moved to the workflow system and the paper and file movement across the organization has been reduced to only one department that introduces the case files into the system. Even with 100 percent increase in number of proposals, shift times post WONDERS reduced from 12 hours/day to 7 hours/day building close to 300 percent back office capacity. Not only that, 20 percent errors on 140,000 proposals in 2003, against 5% errors on 250,000 proposals in 2004/5 (savings on re-working proposals)

Beyond that, the system uses the FileNet scanned and managed images of the business cases. The

Deployment Architecture of WONDERS
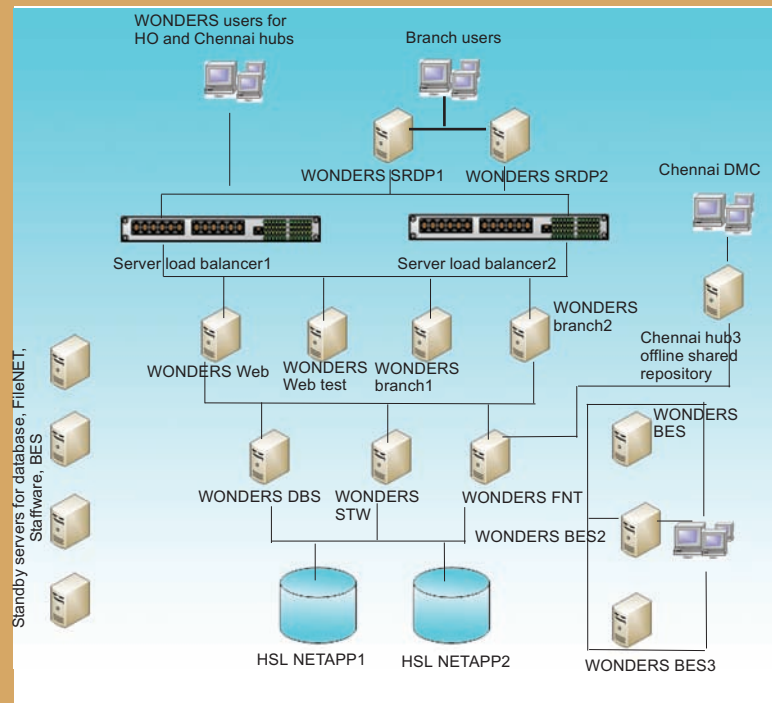
efficiency of the imaging system being used (FileNet) is visible in the fact that a user/underwriter can even distinguish change in the color of inks used while filling the forms, and therefore weeding out fraud entries. TIBCO Staffware

is being used for workflow management.

HDFCSL has automated New Business, Claims, Complaints and Part of Policy Servicing processes as part of WONDERS.

The implementation also enables reducing the number of query calls that came in to the staff and required frequent visits through the hard copy files of the cases. Now all data and progress of a case are visible to them on an internal portal accessible to the sales staff. This has reduced the time and increased the efficiency for all processes. The consumer is benefiting from the deployment too.

They need not wait for days and moths to get their queries sorted out and claims settled. The

Project Specs

Business Problem: In a highly competitive market, HDFCSL wanted to do something different where pricing and QoS are the only two differentiators.

IT Solution: Implemented an enterprise-wide workflow system

Impact: Savings of 300 percent in TAT, 100 percent increase in number of proposals, 40 percent reduction in time spent on queries, 100 percent time reduced in tracking MIS

Implementation Partner: Siemens Information Systems

The n-tier modular technical architecture of WONDERS
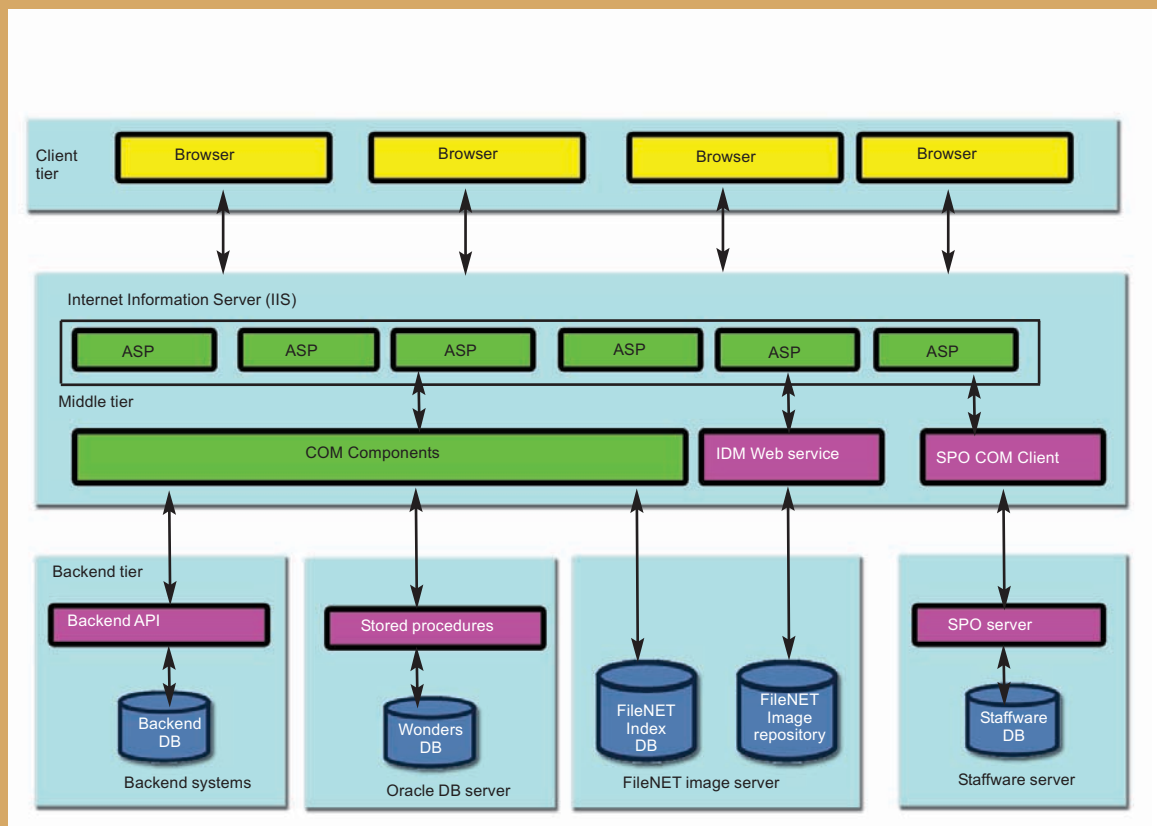
customers can also view the status of their case/policy over a portal for which an identification number is provided to them.

Regulatory policies like settling a claim over a maximum of two days, are also being followed strictly due to this workflow management system. So the follow up has become a lot easier at any level required.

It is not only the direct saving of time and money, and other implied benefits, but WONDERS has also brought in immense automation in the way technology can be used. The users required dual monitors/screens where they could simultaneously see the

scanned case document and index it on a workflow management system. For this, WONDERS' implementation team decided to use the regular 17" monitors tilted at 90 degrees so that each page of the scanned document was visible from top to bottom in one go without the need to scroll up or down. While using larger screens was another choice available, it required huge inputs of money and special service whenever called for. While there are controls on who can see which application or part of it, there are also provisions where some authenticated users can open multiple windows to access required

information to complete the task at a particular step. For instance, while evaluating a case the Underwriters can access the medical records, the alteration history, audit trial etc, all at the same time, to arrive at the final decision.

You can even push high all risk-value cases in a manner that they arrive at only senior-most underwriters. The system does not allow two underwriters to open the same case, thereby, avoiding duplication of work. There is a reduction of time taken on business logged by 10-15%. This time can be spent by the entire sales force spends on the field for ensuring more deals. □

BEST IT IMPLEMENTATIONS OF

Most Innovative

Thiagarajar College of Engg, Madurai
TCENet

Dr. S. Mercy Shalinie, Asstt Prof, Dept. of Comp Sc & Engg

She is a Ph.D. in Computer Science, has 17 years of experi-
ence in teaching and has published over 36 Journals. She has
been involved in 5 IT research projects and won over 7
awards in the field of IT.

> TCENet - the enterprise wide computing
> framework is engineered keeping in mind
> the simplification of the day-to-day
> activities in educational institutions.

TCENet is an ERP system that's been designed and developed in-house to handle the day-to-day activities of the institute. It's completely based on Open Source software, so the only additional cost incurred by the institute has been on hardware. TCENet has 24 modules that covers all activities of college right from Student Admission to Alumni Association.

TCENet is a web-based system that lets everyone in the college organize and access information and publish various activities of the college online, all in a familiar, browser-based environment. It has automated and integrated all processes of the college, right from admissions to management of the alumni association. Let's start with the admission process.

All students are registered online at the time of admission, and their profiles and user ids are also created simultane-

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ously. Students can then use this user ID to access all the TCENet applications. Moreover, TCENet supports single sign-on and central authentication, so once a student has logged in, he/she can access all systems inside the campus and navigate to various applications. Every student is also assigned a mail account with tce.edu domain.

Moving on, TCENet also tracks the course-wise nominal rolls of students along with their respective timetables. Any faculty member can individually upload assignments for students. After the students have completed their assignments, they can upload them back into TCENet. The upload link gets disabled after the last date of assignment submission.

Similarly, all college circulars are posted on TCENet, so that everyone can view them any time until their expiry date. For every circular, the target reader can be mentioned, such as students, staff, or a particular department. After the expiry date, the circular gets automatically deleted and unread new circulars are differentiated from old ones by color codes. Only staff and administrators have the privilege to compose and post the circulars.

Another interesting aspect of TCENet is that the parents of students studying in the institute can also monitor performance of their wards boht in academic and extra-curricular activities.

At the end of each semester, the due details of each student are displayed when they login. These are directly picked up from the TCENet's accounts module. TCENet also has a software forum, where students can

TCENet Technologies and Architecture

Apache 2+

Python 2.4+

PostgreSQL 7.4.7

pygresql

Cheetah

Subversion 1.3

Emacs
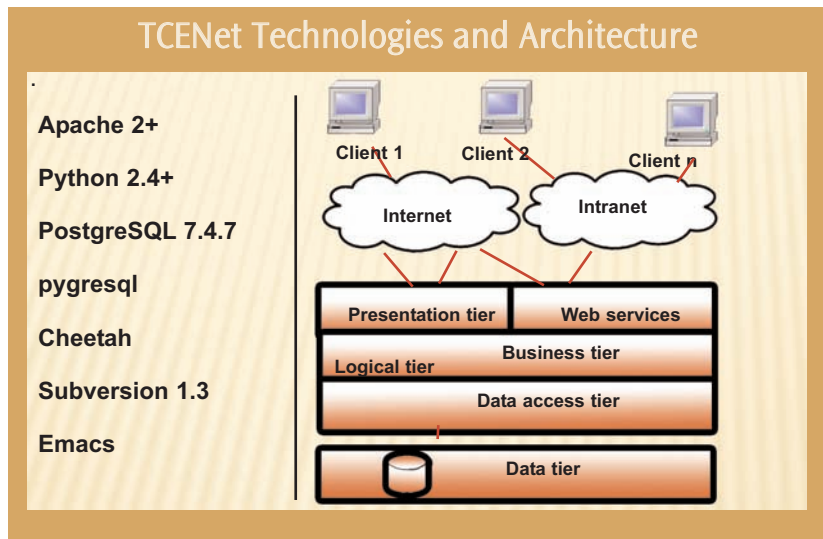
upload their own software like games, utilities, etc.

TCENet users can also publish their articles on the TCENet portal. Likewise, chat and discussion forums are maintained between departments. Another key function of TCEnet includes biometric attendance for staff using finger print identification and smart cards. It has also integrated time and leave management, which provides easy maintenance of staff attendance. Placement-related details are also available on TCENet, with complete statistics of the students' placement records with interview tips, GD tips

Project Specs

Business Problem:
Most of the processes in the institute were paper based, so even a small process would take a lot of time.

IT solution:
An in-house ERP open source solution was deployed

Impact:
Employees and students of the college can work from anywhere

Implementation Partner:
In-House

and résumé preparation guidelines. TCENet uses a framework which is organized into three tiers, namely Presentation Tier, Logical Tier and Data Tier. Each layer is deployed on separated computers on the network. Further the Logical Tier is divided into two sub tiers–Business and Data Access Tiers, to increase scalability and transparency. The tiers are deployed on physically separated machines.The Core Layer of TCENet is a python package, which has a number of classes for various jobs. Each class abstracts the job it does. The application layers are files outside the core. These comprise the main application logic.

Overall, TCENet has made Thiagarajar College of Engineering more or less a paper-less college. With TCENet accessible from anywhere, all the students and employees of the college keep themselves updated all the time.Like we said, since the software is completely Open Source, the college saves on the cost of license fees. That's why, the institute has focused on buying the best hardware for it.

BEST IT IMPLEMENTATIONS OF

Most Innovative

West Bengal State Electricity Distribution Co.
Remote Meter Reading

S G Dutta, Div Engr, IT & Comm. cell, nodal office

He is working with **West Bengal State Electricity Distribution Company** and is responsible for execution and implementation of this project from pilot to commercial deployment state.

> This project improved the efficiency of the WBSEDCL in preventing electricity theft and strengthened their revenue management system.

This is an innovative project implemented by West Bengal State Electricity Distribution Company Limited (WBSEDCL). The company needed a solution for monitoring power consumption of their bulk customers, where it wasn't feasible to send a person to multiple remote locations to collect meter readings. In some cases, readings needed to be collected on a daily basis.

In their existing system, personnel made visits to all the consumer premises to collect meter readings using an MRI (Meter Reading Instrument). Then, all meter information including reading data was downloaded from MRIs to their Bulk Billing Application Package and bills were generated. This data was also used for analysis of the Load Survey and Phasor Diagram of bulk consumers. Energy Bills, De-

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faulter List, Disconnection Notice and different reports are also generated using the same package. The entire data collection (meter reading) process was time consuming and they were not able to generate bills and other important reports on time. Thus came the thought of a system that could fetch meter readings remotely. Research revealed that GSM would be the cheapest medium to connect electric meters to the divisional office. The company had a series of consultancy sessions with IIT Kharagpur, BSNL Kolkata, Electronic Corp. of (I) Ltd, Kolkata, and Secure Meter Ltd.

The solution that was put in place involved connecting meters with GSM modems and BSNL SIM cards; the meters were devised accordingly. The firmware inside the meter collects the reading from the meter and other required data on a periodic basis and saves it. Divisional circle and central commercial offices can fetch this information from the meters remotely whenever required. In the central and divisional office, a PC connected with a PSTN modem dials out to meters, which have GSM connectivity and fetches the meter readings.

The collected data are then fed directly to their Bulk Billing Application Package to generate bills and other MIS reports. In addition, the meter also helps them minimize the chances of electricity theft. If any customer tries to tamper with the meter, the modem inside the meter instantly sends the information to the central office.

This project saved time, effort, and costs of sending people to re-

WBSEDC is using these meters with GSM modems

mote areas for collecting meter data. It also helped to tackle court cases or legal battles by producing the machine generated 'tampering events' in real time. With this system in place, WBSEDCL can continuously monitor consumers' status and can also do instant analysis of different consumption reports. These reports will increase the overall efficiency of the revenue management system. The timely generation of MIS and other vital

reports will also help the administration to take decisions on vital issues. The project also benefited the State Electricity Board to reset the power supply demand when needed remotely on the basis of readings received from these GSM-based meters. It reduced the involvement of human interference and now the power company can have continuous monitoring of their consumers' status. In addition, they don't face the problem of sending personnel over longer distances.

The key challenge was to convince the SERC (State Electricity Regulatory Commission) to implement this system, because according to SERC norms, meter reading can only be done in the consumer's presence.

Finally, WBSEDCL was able to convince them and got the green signal to implement the system for bulk customers. They have now finished the test bed phase and are into the commercial run phase, where meters of their bulk customers are being changed and brought into this monitoring system. □

Project Specs

Business Problem:
Collecting meter readings data from multiple locations took time, resulting in delays in generating bills and other MIS reports.

IT Solution:
GSM modems are used with the meters by which divisional and central commercial offices can instantly fetch meter readings remotely.

Impact:
Improved efficiency of Revenue Management System, detection of meter tampering in real time, deploying close vigilance.

Implementation Partner:
IIT Kharagpur, BSNL Kolkata, Electronic Corp. of (I) Ltd, Kolkata, and Secure Meter Ltd.

BEST IT IMPLEMENTATIONS OF

Most Challenging

North Delhi Power Limited
GIS Implementation

Shailesh Singh, Senior Manager and Head-GIS

He has done Master's in Structural Engineering from IIT Delhi. He has been there with NDPL for about 4 and half years and prior to that he was with BSES [Bombay Suburban Electric Supply] now known as Reliance Energy for about 6 years. He has been mostly involved in engineering or power projects.

> A very detailed project in terms of the data it collates and processes; and probably one of its kind in the power distribution business across India.

North Delhi Power Limited (NDPL) distributes power to North and North West Delhi. For any utility company, effectively managing network distribution requires good network maps. With the help of quality maps, one can plan and utilize resources better. That's exactly what NDPL has done.

NDPL has used GIS (Geographic Information System) to capture ground maps. After implementing GIS, it became a communications platform for various operations of NDPL. GIS has enabled NDPL's employess to know the details of each district, zone, grid station, and even of each consumer, at the click of a button. For instance, if a consumer faces a power cut problem and brings it to the notice of the NDPL authorities, they can trace it out sitting their desk. They can ascertain the power grid from which the consumer is

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connected and can also determine the exact transformer from where he/she gets power. This helps in resolving problems faster than ever before. Similarly, if a customer wants to increase the power load for their residence, GIS helps NDPL employee to determine whether it can be done from the same transformer or whether they need to get another line from a different transformer. Another interesting feature enables NDPL to determine the shortest route to plant a new electrification network.

For instance, if NDPL wants to expand their existing electricity network, they can determine the shortest route between two end points through the system, without actually going out to the field, which was the case earlier. This has improved the efficiency of NDPL and has also helped them to cater to the needs of the consumers faster. These benefits helped NDPL to save a huge amount of money, a whopping 1.26 crore in the very first year of GIS implementation.

GIS also provides a detailed list of all NDPL consumers. Hence, if there is a scheduled power cut at a specific location, they can get the data about affected consumers within that specified location and inform them in advance. All NDPL users have access to it and it can serve 200 concurrent users. They have used a software called GE SmallWorld and the data is stored in the GE small world application server.

GIS also acts as an input to other enterprise software such as SAP and SCADA. But the exten-

GIS implementation architecture
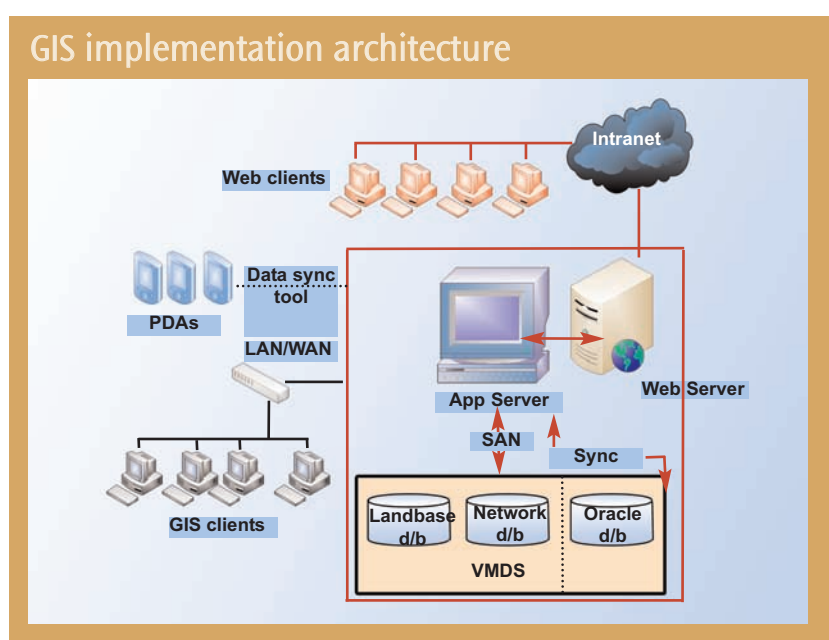
sive use of information makes it a unique project in itself. For people going to the field to lay a network or to check faults in any of the transformers, the system provides invaluable help. They can download the GIS map of the area to a PDA and carry it with them, hence making their life much simpler

and work much faster.

One of the key challenges for them was data creation. With no prior knowledge and lack of availability of a good consultant or agency, it was a challenge to gather such extensive data. The key benefits of this project were faster service to consumers and faster and more cost-effective new network layouts. Senior management can also monitor the development sitting right at their desks. All this has reduced costs to a great extent, which indirectly benefits consumers too.

In the next phase, NDPL plans to integrate the GPS system in their recovery van so that they can monitor it on the GIS map itself. This will help them provide faster and planned solutions to power failure problems. They also plan to integrate other applications such as remote meter reading into a single application, which will help them get more productive results.

Project Specs

Business Problem
They needed very good quality network maps to manage the distribution network effectively.

IT Solution
Using a combination of GIS maps and GE small world solution suite, they were able to get extensive details about their distribution networks.

Impact
Saved around Rs 1,26,00,000 [one crore twenty six lacs in the very first year of GIS implementation. They were also able to recover arrears worth Rs 19,457,393 using maps of specific locations extracted out of GIS.

Implementation Partner:
KEMA, Infotech enterprise

BEST IT IMPLEMENTATIONS OF

Maximum Social Impact

AIIMS
Tele-education/medicine

Dr R S Tyagi, Ph D, Dy Director (Computers) , AIIMS

He is head of the Computer Facility at the Institute. He got his education at the University of Delhi and obtained the post-graduate degree in Many-Body Theories in Particle/Quantum Physics. He joined the All India Institute of Medical Sciences in August 1972.

> The project was divided in 15 lectures to be imparted. Laboratories were setup on both sides and hands on training was conducted on dummies.

I India still lacks proper health care in remote locations. That's why patients mostly have to come to the metros for treatment. For patients with serious ailments, this can become a serious limitation. Till now they didn't really have a choice but to travel, but AIIMS is trying to change all that through its Tele-Medicine project. This project was initiated by the Government of India to provide training, consultancy and expert opinions from AIIMS

to patients and hospitals all over India via teleconferencing. All excited by the impact of the project, we went to check it out. The facility is located in the AIIMs campus. As the AIIMs campus is really big, we had to wander around for about an

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hour to reach the Tele-Medicine Center, despite having the directions (and in between, we took a wrong turn and landed right in front of the AIIMs mortuary!). As we entered the telemedicine room, we found an undersized cabin with one person seated in front of a PC to with a webcam attached. "Was this the teleconferencing setup we had come all the way for?' we wondered. Thankfully, our doubts were put to bay when we were told that Dr. Tyagi would be reaching shortly to take us into the Tele-Medicine room. Finally, as the door opened, we were stunned to see a huge room, complete with a large plasma screen and computers for managing the hi-tech video conferencing infrastructure.

The project connects 300 locations (institutions and peripheral medical colleges) all over India, with VSAT or ISDN links. Tele-consultation is conducted whenever required—for instance, if specialists are unavailable in remote locations or an institution needs a second opinion from AIIMS on some critical case. Then, experts from AIIMS assemble in the telemedicine section and live consultation is held between two or more locations.

The system is currently used mainly for medical education, in order to train the existing manpower and empower them with the knowledge to handle the specialty care in Urology, Cardiology, Childcare, and other departments. In order to do that, experts at AIIMS connect to all the major medical institutes and perform live lab demos in specific medical areas.

The students in remote locations also perform the same exercise as shown by AIIMS professors and the

Tele-Education Video Conferencing system

AIIMS-Campus

Cuttack
Ranchi
Ieh
Chennai
Srinagar
Lucknow
Mumbai
Nellore
Assam
Chandigarh

WAN

········· VSAT
———— ISDN
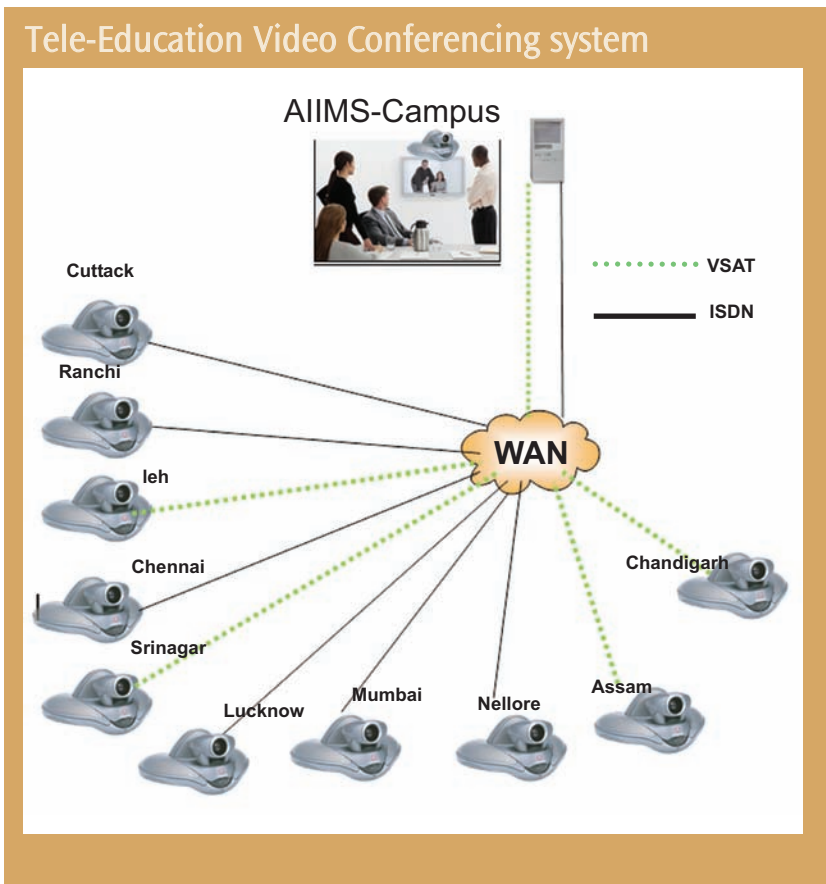
professors mentor and guide them. Being a two way audio/video conference, students can ask all the questions they want.

The system also offers facility for showing digital diagnostic reports of the patients in real time in the tele-

Project Specs

Business Problem: To train doctors doing their internship in remote hospitals

IT Solution: A Video Conferencing system was deployed in AIIMS that connected 300 locations to impart training

Impact: The system is used for both training as well as providing healthcare to critical patients in remote locations. It reduces the influx ofpatients to the main hospitcal.

conferencing session, so that experts from AIIMS can diagnose the patients remotely.

In this system, they have used a classroom required to deliver a lecture and a camera to capture and transmit it to the remote site. The sessions were interactive. A PC and a 51" plasma screen are used for teleconferencing on both sides. Connectivity to this entire system is provided by ISRO for satellite communication and ISRO, MTNL and VSNL for the ISDN channels. As far as performance is concerned, it is seamless without any latency. In a nutshell, the project's impact is that now patients from all over India don't need to come to AIIMS for treatment; they can get it at their local medical center. □

BEST IT IMPLEMENTATIONS OF

Maximum Business Impact

Punjab National Bank
Enterprise Mgmt System

RIS Sidhu General Manager – IT

Mr Sidhu is a gold medalist in B Com and MA (Economics). He is also a CAIIB from IIB and PG Diploma in Management from National Institute of Bank Management, Pune. He is associated with various governing bodies like SIDBI investment committee of SME Growth fund, Committee on IT and Business Process Re-engineering, Inter-ministry Task force on Investment, etc

> After this implementation, bank's turn-around time to address any failure/problem of the link or infrastructure has come down by 60 percent.

T he scale of Punjab National Bank's Enterprise Management System (EMS) project can be gauged from the fact thatthe bank has 3,408 branches across the nation (some of them at the remotest of locations), out of which 2,500 branches are up with the Core Banking System.The bank cannot afford to let any of the links to these stations go down for long, as this would affect the working of the centralized banking solution. The purview of the project includes routers, switches, servers, databases, mail applications and desktops.

For example, if one of the routers gets faulty and the link goes down, the EMS locates the problem in virtually no time, triggers alerts and you can even repair it remotely.

PNB's CA Unicenter EMS has eight modules. These are as follows.

Network System Management: This monitors WAN links and provides traffic/percentage utilization statistics.

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PNB has a four-tier full meshed network architecture wherein the branches/offices are connected to a NC (Network Center). These NCs are further connected to a ZNC (Zonal Networking Center), which is connected to the DC (datacenter) at Delhi and the DRS (Disaster Recovery Site) at Mumbai. Further, the DC and the DRS are connected through 27 Mbps fat pipe from different service providers.

The branches/offices, NCs and ZNCs are connected with a lease line as primary link and ISDN dial-up as backup link. The branches generally use 64 Kbps bandwidth, NCs use bandwidth in multiples of 64 Kbps up to 2 Mbps, while and ZNCs use 2 Mbps bandwidth.

Service Level Management: This monitors and reports SLA data gathered from different NC and branch devices. Administrators can define metrics to be measured, measure on such metrics, and do comprehensive monitoring.

Server Management: This module monitors and manages servers for CPU, disk, memory and I/O utilization.

The Database Management module is to monitor and manage the database server.

Help Desk Management: This module provides web-based support to end users and helpdesk staff to open service requests and track problems. It manages requests, changes, knowledge and problems to be able to provide support quickly.

Desktop Management: This includes Asset Management, Software Delivery and Remote Control

Schematic for EMS Solution for PNB
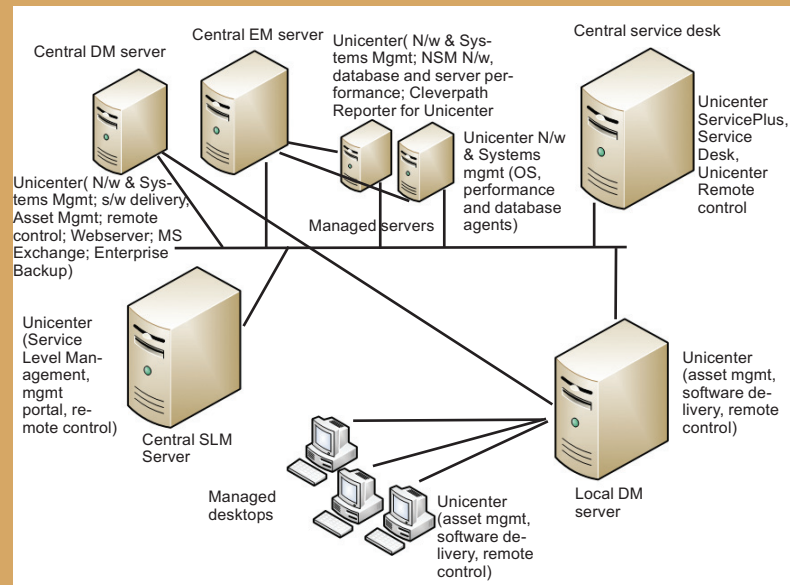
for Windows desktops.

Web Server Management: This module monitors CPU, disk, and memory utilization of Web servers. It also monitors critical services. Since the bank provides services like Internet banking, manages additional delivery channels such as ATMs and Kiosks, is a member of

Project Specs

Business Problem: It was becoming difficult to monitor and manage PNB's huge setup. The bank also wanted to improve uptime, so as to impart betterservices to customers

IT Solution: Recruiting specialized IT manpower at each of the locations would not have been the best of available solutions. This solution offered them centralized viewing of all IT resources and an opportunity to control and mend them

Impact: More than 99.5% uptime, enhanced consumer satisfaction

Implementation partner: CMC, CA, HCL Infosystems

various electronic payment and settlement systems like INFINET, SWIFT, RTGS, SFMS and EFT, and has 39 branches/offices enabled with videoconferencing facility, this module becomes of utmost importance.

MS Exchange Management: This module monitors and manages mail traffic. It also takes care of user quotas and disk space utilization.

Integrating such a mammoth infrastructure and taking it to small and remote locations was a daunting task. However, with the competent core team, vendors and consultants, PNB overcame the challenge successfully. Talking of the effectiveness of the implementation, the bank told us that after this implementation their process turnaround time to address any failure/problem of the link or infrastructure has come down by 60 percent. ☐

Cover Story

ICICI Prudential Life Insurance
Telesales Lead Management

With the increasing demands of business, the management of data had become very difficult, as it lay disorganized in the manual systems and basic applications. A lot of tim e was con-

sumed in tracking leads or turning them into customers. And as the tele-calling operations of the organization are outsourced, the efficiency and accuracy of information was not very high. Or, the correct information was not tagged at the correct place. The organization took the right step forward in going for a completely automated tele-sales lead management solution. As a result, a powerful Web-based system was formulated, which helped ICICI Prudential Life Insurance to streamline operations, achieve effective lead management and control as well as ensure

Project Specs

Business problem: Day-to-day operations of managing leads and converting them into deals were complex and took a lot of time with manual systems in place

IT solution: An automated Web-based lead management solution

Impact: Business increased by about 40% in terms of revenues

Implementation partner: SYSTIME Computer Systems

smooth functioning. The new Web-based system takes care of all processes like generating standard forms/policies from the in-

Sumit Puri, Group Head, C & D

formation gathered from the customer, converting it into PDFs and then distributing the leads to sales staff/agents. The admin module is intelligent enough to allocate policies from a particular region to someone from that region only. You can also set parameters and logics to enable the allocation of particular types of policies to a selected set of people. The time taken in all intermediate processes has been shortened considerably, and now when an agent gets the policy PDF, all he has to do is to get a printout and get it signed by the customer.

The system is currently operational in more than 19 cities where it is giving practical control over productivity. Real time MISs can also be captured through this system.

The system works on Oracle 9i as the database, Apache 2.1 as the Web server, WebLogic 8.1 as the application server. The deployment has been done on a Solaris 5.9 server and the Web interface used is J2EE.

Telesales Lead Management Schematic

DMZ

Weblogic Cluster Entivonment

Datastore Grid 2

Oracle 9i Database Server Instance

Datastore Grid 1

Weblogic 7.0 Server Instance

Request-Response

Request-Response

workstation

Notebooks

Cover Story
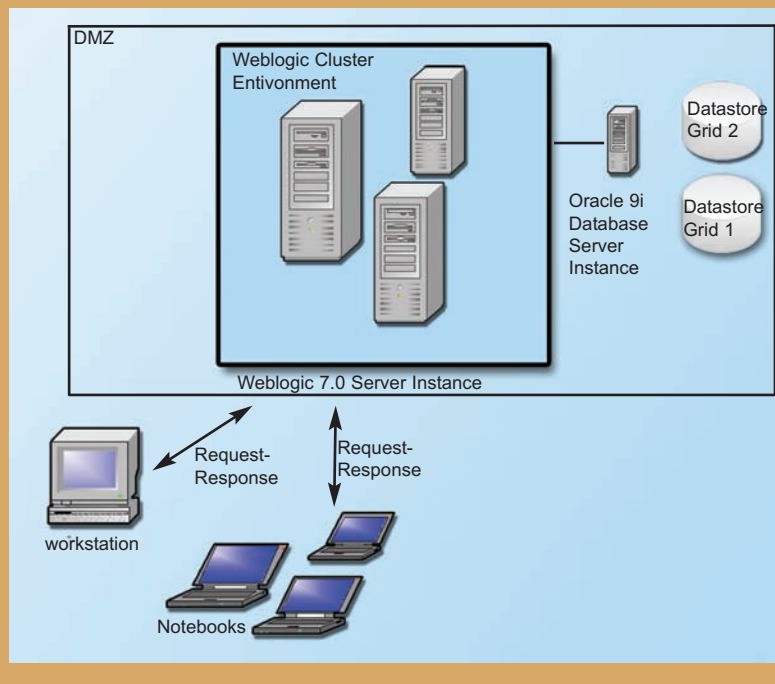
Kotak Mahindra Bank
Info Security Assurance

I nformation security risks exist 24x7 beacause IT infra-structure of a bank runs continuously, and is open all many at one point or the other. So Kotak Mahindra Bank wanted a new model for informa-tion security that would provide higher value to their business. The model would ensure operational excellence in information security governance and deliver result-based information security meas-urement and reporting. The new solution would be holistic, contin-ual and integrated to address secu-rity challenges for today and tomorrow. So, they deployed a

Project Specs

Business problem: There was no one-stop information security model that would help the Bank to combat all types of security threats

IT solution: A managed information security assurance program deployed

Impact: Expected cost reduction of over 30%; network downtime due to security breaches

Implementation partner: Paladion Networks

managed security services solution wherein the system would be able to report security strengths and weaknesses in near real-time to drive action. It tells the level of se-curity the system is in. The bank now has a consistent level of infor-mation security. The new system takes up security measures like phishing combat, e-mail security, scann- ing desktops, vulnerability testing, patch mgmt, and user au-thentication. The managed secu-rity solution has seven components, namely risk engine, vulnerability mgmt, threat mgmt, access mgmt, process risk mgmt, compliance mgmt and gover-nance. The risk en-gine has a repository of risks and appro-priate controls as well as a repository for banking in-dustry drawn from several sources. New risks can also be added to the list. The systemconstantly moni-tors internal and external environ-ments to update risks and controls. It maintains an inventory of as-set and IT and business-de-pendent processes in the bank and maps risks and controls from repository to them. The self-assessment and audit module of the project checks for com-pliance, effec-tiveness and report for driv-ing improve-ments. The system also lets you decide the value of risk and suggests methods for mitigation. There is also an e-learning and security portal to carry out security training and awareness programs across the bank.

Arvind Kathpalia, Head-Operations, Technology & Finance

Flow of Managed Security Solution

Cover Story
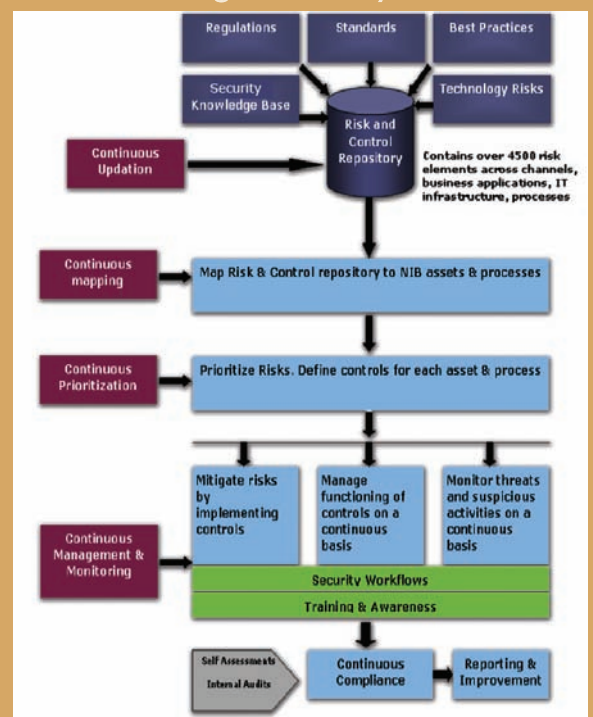
Mahindra and Mahindra Finance
MFConnect 3000

MMFSL has a huge client base in rural India, which is scattered across several remote areas. This made money collection difficult for the company, more so as 80 percent of the total collection is done in cash. Traditionally, it sent collection agents to rural areas to collected the money and generated handwritten receipts. However, this method had quite a few issues— updating of data was slow and there was no way to monitor the performance of the collectors, in terms of number of visits or amount of collection in a day.

The company now provides handheld devices to all its collectors. These devices are connected to the central server over GPRS. The handheld device looks like the card swap machines in shops, the only difference being that these devices are not wired and have a 2.5 db antenna to connect with the GSM network. Each device also has a thermal printer, which generates two copies of the receipt after the collection is made. One copy is given to the customer and the other is kept with the collector for further reference. Immediately after the receipt is generated, the device dials to the central server and uploads the transaction data. The company calls it 'near real

Suresh A Shanmugam, National Head, Information Systems & Technology

Project Specs

Business problem: Cash collection from rural customers

IT solution: Linux-based handheld devices that uses GPRS to upload information to central server and print receipts for the customer instantly

Impact: Banking at your doorstep in rural areas. The company doesn't have to setup branches in remote areas.

IT Implementation partner: VisionTech
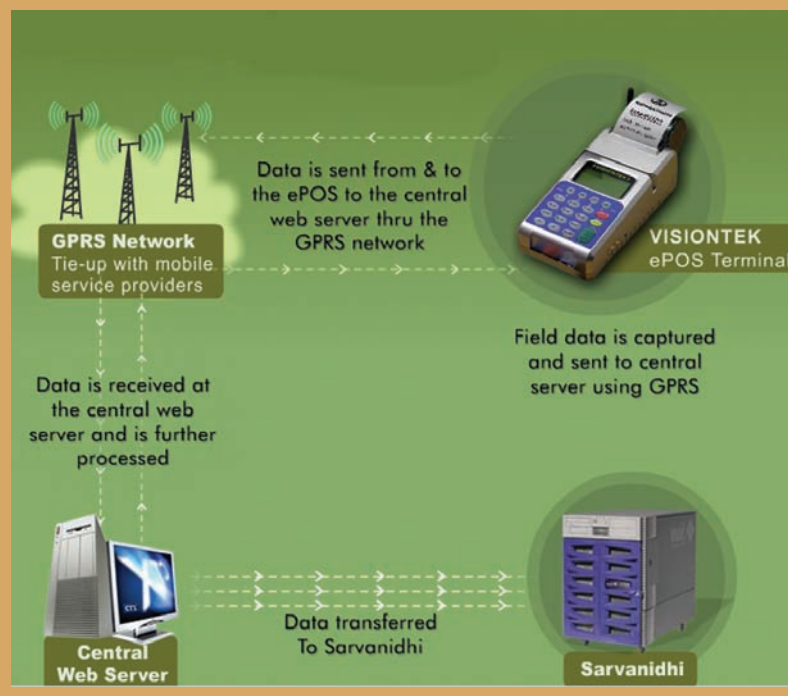
time data entry', because sometimes, non availability of GSM connectivity delays updating of data. However, the device is intelligent enough to dial out and update the data when it comes to an area with connectivity. The device has been developed by Bangalore-based Vision tech and it runs on an embedded Linux OS.

Post deployment, the company claims that its collectors can actually work as a mobile branch, as they can pull and push any data from the central server; they are able to do most of the tasks that were previously done only from the branches.

e-POS: How it works

GPRS Network
Tie-up with mobile service providers

Data is sent from & to the ePOS to the central web server thru the GPRS network

VISIONTEK ePOS Terminal

Field data is captured and sent to central server using GPRS

Data is received at the central web server and is further processed

Data transferred To Sarvanidhi

Central Web Server

Sarvanidhi

BEST IT IMPLEMENTATIONS OF THE YEAR 2007/NEXT 15

Cover Story

Reliance Industries
Knowledge Mgmt System

Reliance Industries has around 4,000 employees working in different business divisions across the country. Managing and capturing knowledge and information from all these employees was a challenge for the company. According to an internal audit, the company wasted around Rs 100 crore in a particular year on duplicity of work and lack of knowledge sharing. To solve this problem, the company has deployed a knowledge capturing and management portal. Reliance KMS has a single sign-on for all central applications. It provides the facility to upload documents, search documents, selective sharing of documents and picture and movie. A powerful document search like Google ensures easy access to desired files. The single sign-on facility is extended to several applications such as travel management system, Project Management system, eLearning, all portals existing in

Project Specs

Business problem: Capture and share knowledge floating among 4,000 employees of RIL

IT solution: Implemented a Knowledge Management System (KMS) with single sign-on

Impact: The company will approximately save Rs 50 crores in licenses, hardware, and manpower cost, apart from improved systems.

Implementation partner: Inhouse

Ashish Chauhan, CIO

each manufacturing site, SAP employee self service, email, photo gallery, Wiki, appointments, announcements and awards, and all internal magazines.

After the system was deployed, the company decided to benchmark it against "Sparsh", the Knowledge Management System of Infosys, which was given the 'Most Admired Knowledge Enterprise' award last year for its Knowledge Mgmt and Intranet Portal, 'Sparsh'. Infosys had put in 7,000 knowledge documents after one year of launching Sparsh, whereas Reliance KMS completed more than 50,000 documents on the portal within the same period. Knowledge sharing has also brought RIL employees closer. They save a lot of time by referring to presentations and process documents on the KMS in order to prepare their own. New joiners find it beneficial to explore the KMS to learn about the organization, something that was earlier done only through structured training. To build this system RIL has used HP Proliant DL380 server for the database and applications, with 4 GB memory and 146 GB internal hard disk. The main data was stored in an HP SAN with 1 TB of space but mirrored—500 GB each for document management and redundancy.

SAN Architecture for KMS Portal

Cover Story

National Informatics Centre
SeedNet

The quality of seeds is crucial in increasing the production of crops. The quality of seeds is going down with time, and quality control, which is a costly process, has become an important factor in seed multiplication and distribution. Also high quality seeds can significantly increase the profits of farmers and growers. Therefore, high quality good seeds are the basic requirement of farmers of agricultural crops. Considering all this, NIC has created the Seednet India Portal where all seed-related information has been put on the Web. The farmers can go to the nearest NGO or government help center or local distributor, to get the relevant information.

Similarly, all research institutes, certifying agencies and seed testing organizations can get any seed related information such as testing procedures, new crop information, etc, easily through the portal.

The portal has a varieties database which provides information

V Rajeswari, Technical Director

Project Specs

Business problem: Seed quality deteriorating, information about seeds was not easily available

IT solution: An online portal was developed which provides a large amount of seed information to everyone

Impact: While a lot of information about seeds in India is available on this portal, its too early to say how much impact this portal will make

Implementation partner: Inhouse

on various available varieties of each seed, information about newly released seeds, etc. Its seed management database provides information on availability, supply and demand for different varieties of seeds, and hence, helps policy planners in decision making. Also the portal has seed-related gazette notifications online from 1968 onwards as scanned original documents.

On the portal you can also find information about seed certifying and seed testing agencies, institutes, government bodies etc. Information about field standards, minimum seed certification standards and many other standards associated with seeds can be found on the portal.

The total number of available seeds for the coming year, and the requirement placed by every state government can also be found at the portal.

Information about the dealers present in a particular area can also be found—dealers also have the choice of going to the portal and registering themselves. The portal can be visited at http://seednet.gov.in/.

Seed supply chain

Lifting — ICAR institutes, SAU, etc — Allotment for production — Production of breeder seed — Allocation for production — Govt of India — ICAR — Production of breeder seed — Indent of breeder seed — Allotment of breeder seed — State governments NSC, SFCI, SAI etc — Distributors — Certified seed distribution — Seed multiplication ration & seed replacement rate done by states — Certified seed production — Foundation seed production — Agencies — Agencies — Foundation seed to certified seed — Farmers

Cover Story

Ministry of Finance
E-Lekha

E-Lekha is developed by National Informatics Centre for the Controller and Auditor General (CAG) to update and monitor daily reporting of expenditure in sync with the budget allotted to a

ministry and its sub units and schemes. This software is positioned at the lowest level of accounting and helps in optimum utilization of the resources for monitoring social projects initiated by various ministries/departments of the central government.

At the lowest level of this system, runs an application called COMPACT. This is a client-server application, which runs on servers in each Pay and Accounts Office and in the offices of all the ministries across the country. Accounting personnel are given access to the COMPACT server, where they can record the expenditure of that particular office for that day.

At the end of the day, a single tamper-proof TXT file is generated from the COMPACT sys-

Project Specs

Business problem: Daily data collection from dispersed locations, lack of transparency

IT solution: Web based portal, which can capture data from legacy systems as well from its own Web based system

Impact: CAG can now get daily reports from all the PAOs across the country and can create instant reports

Implementation partner: NIC

Dipankar Sengupta, Technical Dir, NIC

tem, which is then uploaded to the e-lekha server using its Web based interface. In this way, e-lekha gets all the daily fiscal data from each office across the country.

Ministries can also use this system to monitor their fiscal health for the year, month or on a daily basis. They can even keep track of which PAOs have submitted their daily reports to e-lekha and which are pending. They can also monitor how their allocated budget is being used in various projects and schemes. Each ministry then has to upload a monthly report to e-lekha, which is then accessed and compiled by CGA.

The CGA then generates a report at the end of the financial year, which is presented in Parliament.

With the help of this project, monitoring the country's financial health has become very easy and a great amount of transparency has been incorporated into the system.

E-Lekha Architecture Diagram

Cover Story
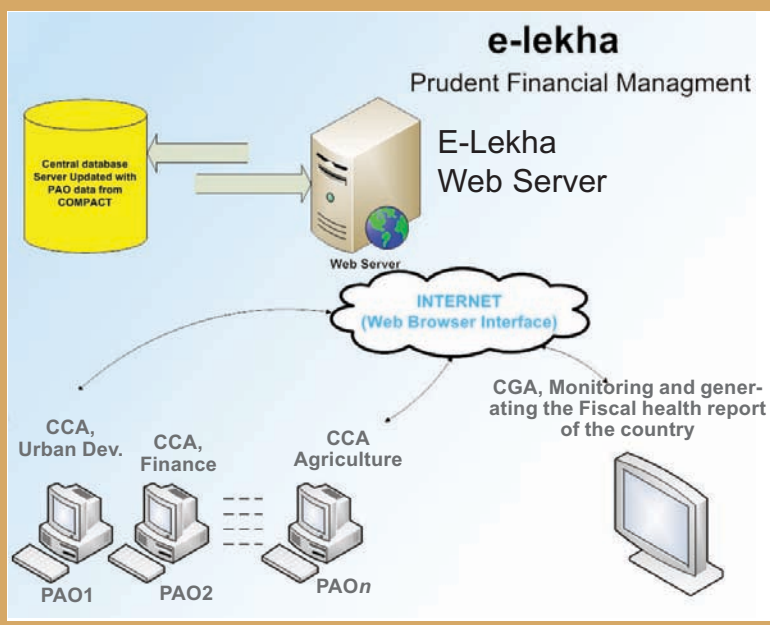
Government of India
MI Census Computerization

Ministry of Water Resources faced challenges in collecting data from all the states in India, in order to plan minor irrigation (MI) schemes for the states. The manual census process for data collection was cumbersome, and took eight to nine years to complete.

At the end of the process, reports were generated to take the planning process for each state forward.

The Water Resources Informatics Division came up with the solution of computerizing the census process. With the computerization of this process, reports can be generated within three months. These reports are then submitted to the Planning Commission to plan future irrigation schemes in areas where they are badly needed. Not only this, the ministry can now access an exact count of all the minor irrigation schemes running in the country. In this process, the databases collected from all the states and union territories will be merged to make a national-level database and a large number of reports will be generated. The Ministry of Water Resources will use this data for publishing a national-level MIS report.

The entire project is developed on VB6 with SQL Server in the

Dr Kishore Kumar, Technical Dir, NIC

Project Specs

Business problem: Finalizing the huge data structure for extracting 100 percent accurate data, Plus people on this new system was another challenge

IT solution: Computerizing the entire minor irrigation census

Impact: Planners don't have to wait for years for reports to plan irrigation schemes in all the states of India; improved and expedited process of deployment and restoration of minor irrigation needs in all states

Implementation partner : NIC

backend. For data entry, a stand-alone interface is provided in all the states and data is stored on MS Access or SQL Server depending on the hardware/software provided by the states. Then, the validated entered data is sent to the main center, where it is transferred to a single database and reports are generated. They have also published this data online, where it can be used for other research purposes. The project also has BI (business Intelligent) functionality to generate reports from the Ministry level to the individual, whoever is associated with minor irrigation schemes. The IS software comprises Microsoft Visual Basic 6.0, Microsoft VB.NET, Seagate Crystal Repot, SQL Server 2000, and MS Access 2000. The hardware for this consists of a PIII Xeon server with 768 MB RAM running Windows 2000 Server and two P4 Win 98 clients with 128 MB RAM each. For Business Intelligence, the software comprises Cognos, ArcInfo, and SQL Server 2000. The hardware consists of a PIII Xeon server with 768 MB RAM running Windows 2000 Server and two P4 Win 98 clients with 128 MB RAM each.

Project Diagram for MI Census Computerization

Cover Story
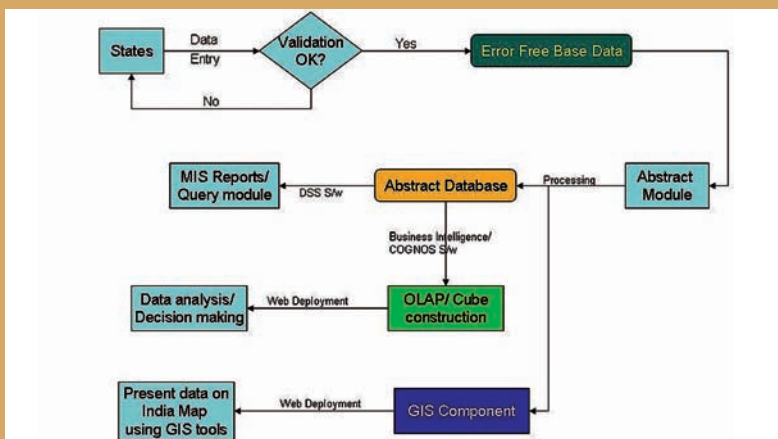
Infosys Technologies
IT Infrastructure Consolidation

With the IT industry growing at around 25 percent, there is tremendous strain on the IT resources of all major IT software service providers. Companies such as Infosys need to look at innovative solutions to consolidate their IT infrastructure. This project was conceptualized about two years back when the company's IT infrastructure was slated for a significant ramp up. The constraints were many: zero space availability, end-of-life servers, and inefficient backup/recovery mechanism to provide business continuity. Also, the IS staff was under tremendous stress in terms of bandwidth to support user needs due to the wide range of services offered and the heterogeneous systems. Procurement of new servers was costing huge money and impacting the profitability of various projects.

Four focus areas emerged while conceptualizing the project design: server consolidation, storage consolidation, backup consolidation, and space consolidation. Multiple small servers were replaced with fewer high-capacity servers to improve efficiencies in utilization and IT management bandwidth. DNS round robin concept was used for load balancing and redundancy by leveraging three existing DNS servers to

Pritam Kr. Sinha, Sr. Project Mgr - IT

Project Specs

Business problem
The increased R&D activity at OSDC in Bangalore put a lot of strain on the datacenter resources.
IT solution
Virtualization techniques for consolidating servers,centralized storage using LTO3 based backup solutions.
Impact
The datacenter footprint was reduced by 70 percent. The consolidation of computing and storage capacity resulted in overall cost savings of $2 million.
IT Implementation partner
In-house.

avoid SPOF. To ensure a future-proof solution, products that support current, mature technologies like FC/CIFS/NFS, as well as emerging next-gen technologies like iSCSI, were procured. After procurement, data was migrated from DAS and servers to the centralized storage. Apart from the obvious efficiency benefits, this also yielded direct cost savings by reducing AMC costs by 45 percent. To reduce the backup window time and the stress on LAN, a Quantum Auto loader with NDMP option was introduced to connect to the storage for LAN-free backup, and LTO3 (the latest technology) was enabled. A VERITAS netbackup solution for centralized backup and monitoring was also implemented. Snapshot technology was leveraged and configured for disk-based backup. This used advanced concepts such as block-based incremental backup to reduce the backup windows from 12 hours to less than 10 minutes. To reduce datacenter space, the team put in place plans to move from table-type racks to the latest shelf-type racks. □

Load balanced Architecture with DNS Round Robin

HP-UX Server Pool

Sun Server Pool

DNS Server

Netapps FAS 3020

LAN ENVIRONMENT

Cover Story
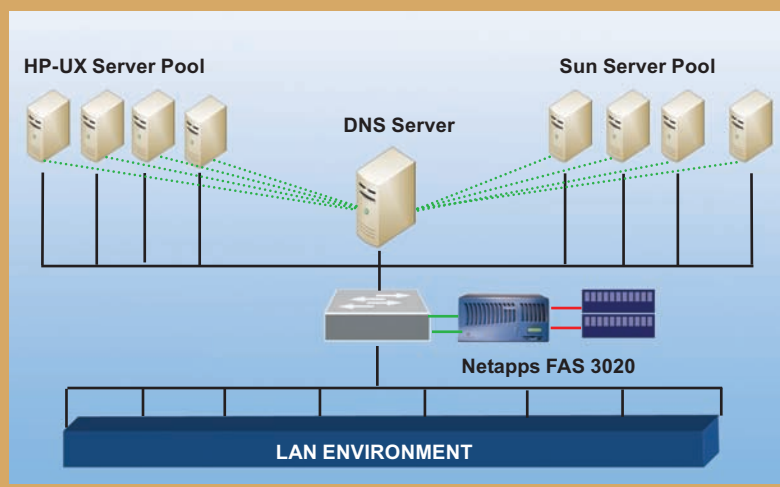
Sun Microsystems
Shared Labs

The company has consolidated the infrastructure of their datacenter in Bangalore and deployed efficient power and cooling solutions to save on space and costs.

With the increase in R&D activities, the company is in dire need of space and hardware for newer, higher density compute equipment. Continuing with the older model would have adversely impacted their revenues. So, they decided to go in for a new design based on APC's hot aisle containment technique. The cooling solution utilizes APC's RC (Row Cooling) technology. The devices trap and neutralize the heat generated by the equipment to eliminate the mixing of hot and cold air in the room.

These units sense the temperatures and speed up or slow down the cooling fans as required. The RCs are placed in such a way that there is enough airflow even with an entire RC failure in each row. While taking up this project, the company had to overcome many challenges. The entire lab and supporting infrastructure had to have reliable power and cooling to operate. To achieve this all the compute equipment and cooling units in the lab are backed by 100 % UPS and diesel generators. The company has deployed standard racks

Ramesh K.V., Regional Manager
Work Place Resources - India

Project Specs

Business problem
With the increase in business, the company needed more IT hardware and physical space for their data center.
IT solution
They used an intelligent sensor-based cooling and power solution from APC apart from the standard virtualization techniques for consolidating their servers.
Impact
They achieved a 51% reduction in space and a 30% operational efficiency gain.
IT Implementation Partner
APC

Sun's Data center in Bangalore

in the new labs to provide an intelligent, consistent footprint to all lab users.

This lab has the densest cabling configurations amongst all labs at Sun, worldwide. The standard racks are 30" wide and allow for proper cable management without impeding airflow. The modular 0U rack PDUs are metered, monitored and allow remote switching of all outlets.

Each rack also has Environmental Monitoring Units (EMUs) to monitor humidity and temperature per rack. To ensure that chilled water is in constant supply to the lab, the chiller pumps and booster pumps are being supported by DG and UPS. Both the chiller and booster pumps have redundant pumps. The lab is designed to support 82 racks at 8 kW per rack footprint, along with 10 IDF racks at 4 kW per footprint. This forms five hot aisle containment configurations, separated into various zones. What's more, each zone also has two IDF cabinets supporting each row. There are 10 APC 80kw ISX UPS in this solution. The UPS design provides two source feeds per rack. This enables redundancy and improves availability of the infrastructure.

Cover Story

Wipro Technologies
Migration to MPLS-based WAN

Jethin Chandran, Head - IT Infrastructure Planning and PMO, Wipro

With growing business needs, IT companies need improved bandwidth over their WAN links, scalability, and with scattered IT skills, they need to ensure a high-rate of mobility

for their workforce. Keeping these concerns in mind, Wipro decided to move from the legacy TDM-based network to an MPLS-based network. Prior to this migration, Wipro's network consisted of point-to-point lease line connectivity across all locations. Drawbacks of this setup included fixed bandwidth, no scalability, network complexity, too many active components to terminate the WAN link, and high running costs with low bandwidth. So, the company's IT decision makers decided to go for a single service provider with clear SLAs on uptime and latency. The migration from NLD to MPLS technology gave benefits such as bandwidth scalability, cost saving, any-to-any communication, quality of service (QoS) and traffic isolation among multiple clients. The

company could also reduce the lead time interconnectivity of new offices to the main datacenter. MPLS allows a Service Provider to have complete control over parameters that are critical to offering its customers service guarantees with regard to bandwidth through-

Project Specs

Business problem
Changing business dynamics demand more bandwidth and the flexibility to share IT resources amongst all branches
IT solution
MPLS-based WAN provides increased bandwidth along with redundancy and QoS. Virtual ODC concept allows sharing of skills across different locations.
Impact
The bandwidth has increased by three times, with a 20 percent reduction in costs.
IT Implementation partner
Bharti Airtel

puts, latencies and availability. The technology enables secure Virtual Private Networks (VPN) to be built and allows scalability that will make it possible to offer assured growth to its customers without having to make significant investments. In the new design, each data center would have two STM1 last mile with Ethernet handoff from two different service providers. BGP routing protocol was used to route Public IP address to the Internet. This ensured that the Internet traffic load would be distributed to two datacenters. So, even if one data center or service provider POP went down, Internet traffic would get routed via another datacenter. The company also put together a virtual ODC concept on this network to enable usage of skills across more than 35 locations in India.

This allows the workforce to access the same network resources across all locations. This helped in addressing the high lead times of resource fulfillment, high training costs and a high turnaround time. The complete enterprise network has been outsourced to a managed service provider. Its enhanced design has helped Wipro achieve 99.999% uptime. □

Virtual ODC Concept

Cover Story
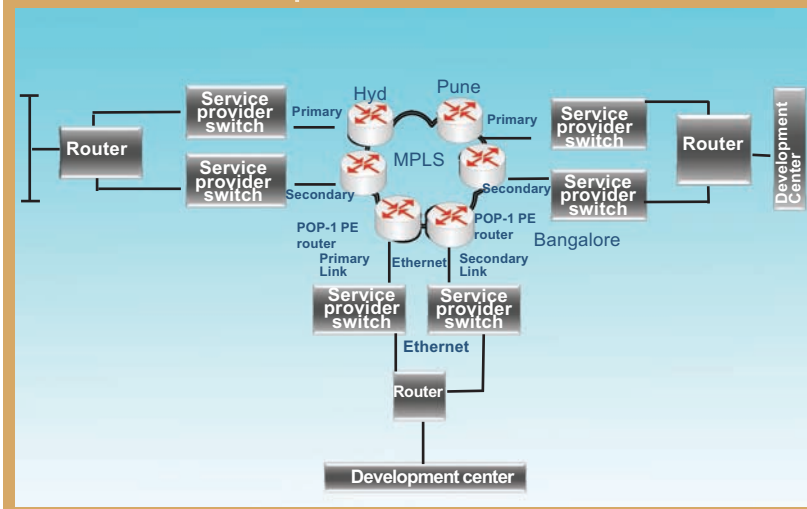
XPS
e-POD

Today, many transportation and logistics organizations have customers claiming they have not received the consignment they ordered, while the supplier believes the goods have been delivered.

When transporters are contacted, they show the Net tracking results of the consignment, but the customer still maintains that he has not received it. As customer demands to view the status of their delivery online, XPS decided to bring out an in-house solution to provide the PoD online.

Buying expensive scanners and deploying them across all 1,000 branches would have meant a huge budget. An in-house solution was therefore implemented. A webcam was used to capture an image of the PoD, specifically the area where the customer's signature is. A scanner made in-house was used to upload it to the central server. The entire setup cost around Rs 1,500. Not only does it save money, but the solution is also faster than the conventional method. Scanning one docket would typically take two minutes, and they handled millions of dockets.

So in an environment where monthly Millions of dockets are booked and delivered the conventional methodology worked out to be too time consuming and expensive. Any user can log in and check the PoD online. The image can also be enlarged or reduced while viewing, a feature that was absent in the traditional solution. Another key advantage was the easy to use capability of the solution; any one can use it without specialized training.

Software platform used to achieve the solution were mainly VB and ASP.NET along with OCR (optical character recognition) to convert the barcode to text format. It took them around 6 months from conceptualization to implementation and they are planning to implement it up to the branch level. This solution helped them to provide better customer satisfaction in a cost effective manner.

Project Specs

Business problem: Customers complained that they hadn't received the consignment they ordered, whereas suppliers believed that the delivery have been made

IT solution: A webcam and a scanner made in-house were used to scan PODs and provide them online to customers

Impact: Strong business impact, huge budget savings. The in-house equipment cost Rs 1500, and is easy to deploy across all

Implementation partner: Inhouse

Kalpataru Bhattacharjee, AVP-IT

E-POD Network

Cover Story

Apollo Tyres
Mobile Connect

Apollo Tyres has approximately 5000 dealers and a large sales force spread all around the country. Apollo wanted to enable their exclusive dealers to access their central database, and track information, instead of their having to depend on their regional offices for the information. Similarly, the sales force and employees of Apollo tyres required the latest information, and would have to wait for a while before they could get it. So, Apollo tyres has implemented an SMS solution with interface to SAP, so information can be directly accessed through the SAP. This ensures that information is correct and also the latest. This solution keeps customers, dealers, sales force and management level employees updated on a daily basis. An SMS is sent a customer as acknowledgement on receipt of a tyre claim of a tyre in warranty. Another SMS is sent after the inspection of the claim of the tyre. This provides the customer real-time details of his claims without his having to ask the dealers again and again. Similarly SMSs are sent to sales, where the sales force is provided the outstanding and credit details of the concerned dealers on a daily basis. The sales force can also query the system for

Chandrasekhar Velagapudi, Div Head-IT

the availability of stocks at the relevant godowns. This saves time spent in calling various people to find out the status of stocks at the godown. Dealers are informed through SMS about the details of invoices, and when their cheques are deposited. The production managerial level employees of Apollo tyres are also sent an SMS everyday with the relevant production details of the day. They can also query the system any time, and can get real time production details trough SAP. When a new scheme is launched within Apollo Tyres, SMSs are sent to relevant people informing them about the scheme.

Apollo tyres has also mapped the mobile numbers of the dealers and employees on their SAP system, so that no one else can access the system. One challenge here is to keep the database of mobile number updated all the time as some dealers frequently change their mobiles.

The project has enhanced the transparency of operations between the organization and dealers.

Project Specs

Business problem: Dealers and sales force are spread across the country, and they frequently require updated information instantly

IT solution: An SMS solution with interface to SAP was deployed

Impact: Customers no longer need to call dealers everyday to know the status of claims. Employees can get required information easily

Implementation partner: ValueFirst

How Mobile Connect works

Outgoing messgaes

Mobile Gateway of Service provider

Incoming messgaes

SAP R/3 Enterprise Server

SMS Software with SAP connector

SMS Gateway (Internal)

Central Database and developments

Customer database, Rules and interface to SAP with security

Interconnect to Service provider Mobile Gateway
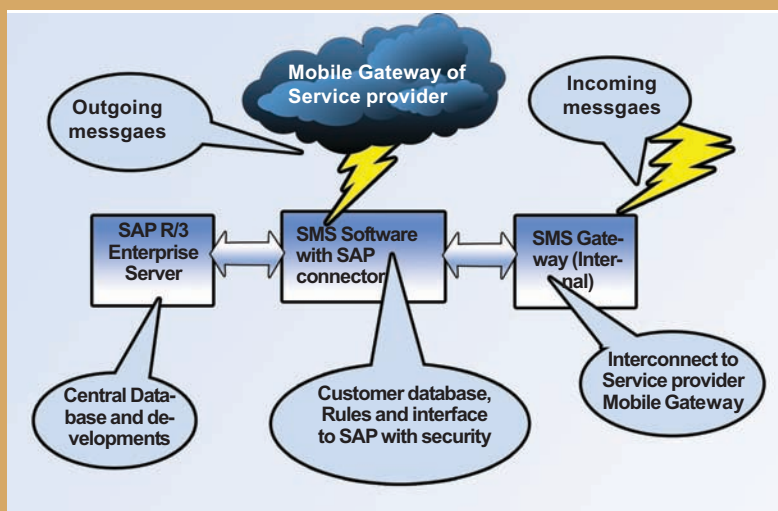
Samsung
E-Chaupal

Samsung Electronics has five factories operating from one campus where they manufacture color TVs, monitors, washing machines, AC heat exchangers and refrigerators. The operators working on

Project Specs

Business problem: Scattered information made workers dependent on others to get work done. There was loss of time in enquiries and sorting queries of workflow and performance

IT solutions: Bilingual kiosks were set up at various locations

Impact: Motivated workforce, 8% increase in productivity, 40% reduction in defects

Implementation partner: Inhouse

Rajesh Chopra, Vice President, Information Systems, Samsung Electronics

assembly lines had a tough time when they needed any information about processes. They had to ask their coordinators to clarify doubts, which took a lot of time. Also, they had to go and ask HR staff to know the state of their individual suggestions/grievances and MBOs. So IT and HR departments came together to roll out an e-governance cum staff welfare project. Under the scheme, bilingual (Hindi and English) touch-screen information kiosks have been put up at 12 key locations, such as assembly lines, rest rooms and cafeteria. A third language (Tamil) will be added in the Chennai facility that will be operational in a few months.

The kiosks provide necessary information, like organizational

Information kiosk at Samsung

policies and guidelines, employee handbook, MBO action plan and workers' ranking/achievements, suggestion status at regular intervals, status of department's and individual's performance, and a platform to submit suggestions and grievances online.

The system has a client-server architecture, and the bilingual application has been developed in VB.NET and is configured on the clients. The app fetches data from the database on the server when the menus are clicked. Four clients are connected to the scanner through which workers scan their suggestions and grievances. Information personal to each employee can be accessed only using the allotted PIN and password or by the admin.

The system gave a productivity boost of 8% for the factory workers. There is increased transparency of operations, reduced dependency, and increased interaction between operators and the management. Record management has become easy through the centralized database and online uploading of suggestions and grievances has improved the response time. Workers now feel more responsive and motivated.

Cover Story

BPCL
IT Governance Framework

Bharat Petroleum has a huge IT setup at its refinery. A plant monitoring system supports over 150 online/OLTP transactions/MIS/BI applications, and a collaborative portal hosts these apps and helps in knowledge and information management as well. In all, there are around 1,500 desktops, 60 high-end servers, two SAN boxes, two data centers in the refinery and an offsite data center. The total area is around 24 km, connected with 80 switches.

To arrive at a standard operation procedure, BPCL required a set of guidelines to streamline the IT setup. They opted for the CO-BIT compliance guideline, and re-deployed the setup in accordance with it. This helped enhance the quality of IT service delivery for most of the company's processes

Project Specs

Business problem: Managing a huge infrastructure with only 18 people comprising the IT staff

IT solution: Re-implementation of the project in accordance with COBIT guidelines

Impact: A very small IT team is now capable of managing the huge infra-structure

Implementation partner: Inhouse

such as Service Level Management, IT Solution Acquisition, Project Management, IT Asset Management, etc, and helped the
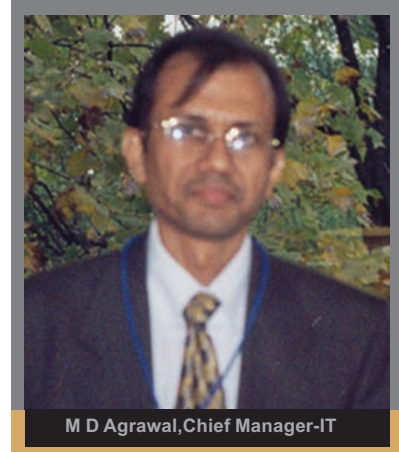
M D Agrawal, Chief Manager-IT

refinery meet goals from a strategic perspective. Twelve modules from COBIT were introduced, including BCP, IT Security Framework, IT Asset Mgmt Framework, Incident Mgmt Process, Backup, Storage and Media Mgmt Framework, Change Mgmt Process, etc.

A SharePoint portal is used to host, capture and archive all CO-BIT-related documentation, transactions like incident reporting and change configuration. The portal also archives daily logs and hardware performance status. It is, therefore, an all-in-one archival and delivery system. Using a portal facilitates the company to develop a rich knowledge base of IT processes and incidents, and carry out proper knowledge management. Previously, all knowledge about a particular process used to be with the person handling the process. If that person left the company, the knowledge was lost making it difficult for anyone new to adapt and understand these processes. With proper knowledge sharing and archiving, and a fixed guideline for every process and proper documentation, this problem has been solved.

Selection of CobiT Controls for BPCL

IS Key objectives

- Data center server infrastructure
- LAN/WAN
- Application systems
- Facility Management Service
- Operations Management
- Security Policy
- Power supply, UPS, Fire protection and safety
- Overall risk mgmt, assessment and business continuity
- COBIT Compliance check
- Disaster Simulation Exercise

COBIT controls

PO1 Define a strategic plan
PO2 Define the information architecture
PO3 Determine the technological direction
PO4 Define the IT organization and relationships
PO5 Manage the IT investment
PO6 Communicate mgmt aims and direction
PO7 Manage HR
PO8 Ensure compliance with external requirement
PO9 asset risks
PO10 Manager projects
PO11 Manage quality

AI1 Identity aumated solutions
AI2 Acquire & maintain app s/w
AI3 Acquire & maintain tech infra
AI4 Develop & maintain procedure
AI5 Install & accredit systems
AI6 Manage changes

DS1 Define, manage SLs
DS2 Manage 3rd party services
DS3 Manage performance & capacity
DS4 Ensure continuous service
DS5 Ensure system security
DS6 Identify and allocate cost
DS7 Educate and train users
DS8, DS9, DS10...
DS11 Manager data
DS12 Manage facilities/DS13 Ops

M1 Monitor processes, M2 Assess internal control adequacy,...

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

CXO
Speak

**The CEOs/COOs/CIOs
speak on the state of
IT deployments in India**

BEST IT IMPLEMENTATIONS OF THE

One of the seven founders of Infosys along with Narayana Murthy and Nandan Nilekani, S. Gopalakrishnan (Kris) has vast experience in implementing major IT projects across the globe. Poised to takeover as the CEO in June, he talked to PCQuest about his priorities, the challenges that project heads face while implementing new technologies, the difference in implementing mutli-billion dollar projects in India as compared to implementing them abroad and the overall challenges that the Indian IT industry faces.

Q **Congratulations for being nominated to succeed Nandan Nilekani as the CEO, Infosys. What would be your priorities after taking over?**

I'll prioritize my tasks based on the current environment in IT. I would begin by focusing on competitiveness and productivity. For that, I would try to forge a linear relationship between adding people and increasing productivity. In addition to this, we also need to improve competency in various domains and the level of consultancy within the organization. We are a 55,000+ engineer strong company and need to leverage this huge IP resource pool to our advantage.

Q **How do Indian companies differ from foreign ones, when implementing huge IT projects?**

In India the metrics to be considered while deploying big projects are very different from what they are when deploying abroad. Your templates must be in tune with the labor costs, as any justification for a project will necessarily include labor costs. So, you need to be very careful in evaluating a major technology for deployment, as supporting infrastructure could be sorely lacking. Moreover, volumes are not high enough to justify support for development/deployment.

Q **You have much experience in implementing multi-billion dollar projects. What advice do you have for other companies that plan such implementations?**

While implementing big projects you get to experience a lot of new technologies. These technologies provide opportunities for collaboration and benefits to vendors and their partners. You see work being coordinated across multiple locations, multiple time zones. This also provides opportunities to organizations in terms of new revenue streams.

Q **Based on your experience, what are the pitfalls that they should avoid?**

It is important to make sure that you have support infrastructure in India for technologies that you plan to deploy. As companies transition toward newer technologies, you need to train your people to bring them at par with the new requirements. Also, you need to make changes to your business processes, else you won't get the desired benefits. At Infosys, we first look at the operational changes required and then make systemic changes. It's only after both have been taken care of, that we decide upon the technology to be used.

Q **What are the recipes for success or, the concerns during large-scale implementations?**

There is a lot of interdependence between people and complexity of scale. Training a lot of people at one go is a concern. You also need to interact regularly with the client and with various departments in an organization. So, allow sufficient time for communication and collaboration between interested parties. Make sure that you take care of their concerns and manage those interactions very diligently. You also need to synchronize changes in the system. Amidst all this, ensure that the impact on the client is minimal. And wherever he is impacted, take care that he is kept in the loop before decisions are taken.

YEAR 2007/CXO SPEAK

IT Implementations in India

S. Gopalakrishnan (Kris), President and COO (CEO-designate), Infosys

Q How important is the IT infrastructure consolidation project for Infosys?

This project allowed us to further the goal of consolidation across various departments in the organization. We plan to consolidate on similar lines, other infrastructure across the organization. Now we are in a position to take it even further and show it as a service to our clients.

Q What was the management's support to the IT team for this project?

We gave them the resources and the space, and they did a fantastic job! We passed on the complete ownership of the project to the team. We felt that such an approach would provide opportunities to the team to learn despite the risks involved. It also creates a sense of entrepreneurship within the company. We allowed them to take bottom lines in hand and chalk out their own path to achieve desired goals.

Q What do you think of the IT landscape in India?

There is under-investment in IT in India. Look at sectors such as telecom and banking that have taken strong strides forward in recent times. As we become part of the global supply chain, we need to ensure that our IT infrastructure is at par with global requirements. We should take advantage of the fact that we have little legacy and go in for the latest technology in our IT deployments. In India, costs are lower in terms of technologies and labor. We should understand and leverage technology better by coming up with newer ways to achieve something. As more and more R&D is taking place in India (companies such as SAP, Oracle, Intel and Motorola already have R&D centers here) we need to make full use of that. However, we need to tackle the decrease in R&D activity in education. We need more research taking place at the PhD level.

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Q Insurance sector is seen as an underdog in terms of technology adoption. How have you been able to overcome this?

We have the most sophisticated digitized workflow in financial services. We have a strong core insurance administration solution. We have enabled our sales workforce and financial consultants with real-time information over the Web. We have leveraged the robust processing efficiency of legacy solutions with business intelligence, collaboration and internet technologies.

We are a financially unsophisticated market. The new entrants into life insurance are creating awareness of financial planning. Our focus is on need-based selling and, hence, technology is not emphasized. As customers' awareness increases, they will become more discerning in their assessment of capabilities of insurance service providers in meeting service obligations in a cost-effective manner.

Q You have made your organization almost paperless. How has been the journey from legacy systems to here?

We were able to create a process oriented culture in the formative stages. We realized that technology was but a means to an efficient and effective workplace. We did not have to adopt the legacy practices of experienced financial services players. Rather, we needed to adopt the best practice methods and blend them with technology adoption.

We realized that technology was all-pervasive, and the choice was one of extent rather than automation. While automation (technology utilization) was a given, transformation (technology exploitation) was a strategic direction from the start. This journey has

been possible as IT was able to provide strategic guidance to top management and we created a business process management team. One of our workflow automation projects has effectively been owned by the BPM team with IT in a business role.

Q How do you ensure business continuity while ensuring that appropriate IT is implemented and being followed? Change mgmt is also a major concern that every CIO needs to address. How do you go about it?

IT alone is an enabler of business continuity. Digitization of paper based data, process automation and creation of redundant data centers ensures availability of data and processing capability. At HDFC Standard Life, we adopted business continuity as a strategic deliverable of IT and implemented BCP. We

> Technology was all pervasive, and the choice was one of extent rather than automation. While automation was a given, IT exploitation was a strategic move.

have established anIT DR site and a central processing hub outside Mumbai, to provide for continuity as well as extended outage.

We have an yearly certification procedure for all our policy data. We have ensured change management within IT for technical components, as well as a IT -business team that drives change management.

Q Your advice for the "I" in BFSI sector, as a CIO.

Think long term, scalability and design your applications around the customer. Unlike other sectors, a customer on a policy can continue to be one for 50 years on that policy alone.

BEST IT IMPLEMENTATIONS OF

Q **You have implemented a blanket managed services solution. Why is that so and how do you see it for the BFSI sector?**

Information Security is an integral part of banking industry today as channels proliferate and we will do everything possible to ensure that our customers feel safe about their identity, data and funds irrespective of whichever channel, whatever time from any place they chose to transact with us.

The Managed Security Assurance Program that we have undertaken is a first in the Indian Industry. It is a comprehensive result oriented program where our strategic partner whose domain expertise is Information Secu-

All our operation units have a documented BCP in place and test drills are conducted half yearly. The bank also has a DR data center in Bangalore where all critical data is replicated online. BCP/DR is an ongoing exercise in a growing enterprise like Kotak and it is our endeavor to continuously upgrade our BCP/DR.

Regarding change management, Kotak is one of the few enterprises which is extremely agile, has fast time to market, churns out a 100 new projects every year and also supports our legacy systems. We do all this through a combination of smart sourcing where we keep the foundation layers, architecture and integration inhouse and outsource everything

Arvind, a University ranker in BA (Hons) Economics from Delhi University and an MBA (Marketing & Finance) from FMS, Delhi, is responsible for the overall Operations, Technology & Finance functions at the bank.. Arvind brings with him 25 years of experience in banking, with his earlier experience in ANZ Grindlays and Standard Chartered Bank. His passion for travelling & sports takes him around the world for watching key events like the Olympics, F1 racing, Grand Slam, Cricket and Rugby.

rity has agreed to guarantee all kinds of security threats, internal or external. This way we get access to the best domain expertise, tools and processes for its information security.

We are extremely excited about this partnership and expect that many other institutions will follow such programmes in India.

Q **How do you ensure business continuity ? Change management is also a major concern to be addressed. How do you go about it?**

Business Continuity is paramount for banking operations. It is not just a question of having the technology but also having the right processes and people in place. Kotak Mahindra Bank has invested a lot in BCP/DR.

else to people who are best equipped to do it.

Q **What trends can you spot in the banking sector as far as the culmination of business and IT is concerned?**

Banking and technology as inseparable. You will not find banks without technology today, I see technology as an essential enabler to the various banking business units rather than a control function which lays down bureaucratic processes and standards. To ensure this, the CIO needs to manage technology like any other business, ie being agile, faster time to market, collaborating and aligning with the best partners, opening up supply chains and being innovative.

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CXO Speak

Arvind Kathpalia,
Head-Operations, Technology &
Finance, Kotak Mahindra Bank

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

CXO Speak

Insurance market has been at its evolutionary best for last 1 year or so. From opening the market to private players to de-tariffing, the metamorphosis has just begun. This is the first challenge unique to Insurance.

Raju Sharan, Financial Advisor, United India Insurance Company Limited

Raju Sharan started his professional career in 1989 with the State Bank of India and joined Government of India (Indian Civil Accounts Service) in 1990. Since then, he has served in various capacities and in several Ministries and Departments, and also with World Bank, International Monetary Fund and the United Nations. Since December 2003, he has been working on deputation as Financial Advisor to United India Insurance Company Limited.

Q What role is IT playing in the growth of your organization?

IT systems have become the backbone of day to day operations today, computerizing core business processes like underwriting, claims and accounts. More and more back office works like pension, PF, housing loan are being computerized which has substantially improved efficiency and relieved load of manually doing above. Decision support system has helped top management get better visibility and helped business decisions to be more precise and scientific. Statistical analysis of our previous experience in a particular portfolio is possible at the click of a button. All in all, IT has come a long way from being business enabler. Rather, it is the business today because in all likelihood, if your IT is not good your business isn't either.

Q What are some unique challenges that the Insurance sector is facing today that IT can resolve?

Insurance market has been at its evolutionary best for last 1 year or so. From opening the market to private players to de-tariffing, the metamorphosis has just begun. This is the first challenge unique to Insurance – it is growing very fast and at the same time changing very fast. IT not only has to cope with these changes but on many fronts like dynamic rating define them too.

The IT system has to be very flexible, it has to make business transactions more affordable and finally it has to provide better service levels to each customer–big and small, nearby and distant.

Q How difficult is it to manage a huge but distributed environment like yours? How does IT help in this?

It is a Herculean task to put together business figures from all branches and derive company wide reports. IT has solved that problem by implementing a mechanism of periodically transferring data to central location and thus building a central data repository that can give you all the reports you want. Another point worth mentioning is implementing corporate messaging system and IP telephony has made information dissemination even in a distributed environment easy.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

With an annual turnover of Rs. 15,000 crores, Wipro is second to none when it comes to implementing huge IT projects. We talked to their CIO, Laxman Badiga, and sought his views on the state of IT implementations in India.

CXO Speak

Laxman Badiga, CIO, Wipro Technologies

Q What are the major concerns in IT projects that one should be aware of?

Fundamental to the success of a project are the people involved in it. Unless you have the right people at the right place, you can't expect the desired results. You need to understand client expectations thoroughly, need to leverage the expertise of the team and top it up with good project management. Note that even though you can fix the technology component and process component but the chief concern remains getting the right people.

Q What are the major issues that Indian companies face while dealing with their clients?

The development team should first understand client expectations. For eg, I could be servicing clients from sectors as diverse as retail, banking or security. This would entail that I clearly understand their diverse technical needs. Secondly, you need to understand the cultural background of your client. The way you interact with a Japanese should be different from how you deal with an American or an Indian client. A successful communication involves 53% listening and the remaining 47% is a mix of body language and written stuff. Most of the people don't listen enough. Remember, it is easy to solve process or technology problems but cultural change requires some effort to understand.

Q How does your usage of IT change with size as you scale up to a multi-billion dollar company?

The biggest challenge in this transition is project management. Smaller projects can be easily managed but handling huge teams becomes an enormous task. So, modularizing is important. You need to ensure proper and effective communication amongst the people involved. You need to ensure that all your modules work effectively. Smaller projects with a contained team are easy to manage. But you miss this element as you scale up.

Q What's your advice for mid-sized companies that are growing rapidly but are struggling with their IT, especially when the major technology companies don't seem to be focusing on them?

I would advise them to focus on areas that they really need rather than copying what larger organizations are doing. They should look at what makes sense to them and use due diligence while implementing projects. But don't let availability or non-availability of resources act as a delimiter in terms of adopting technology. You have enough guidance available. Wipro has a separate focus for SMBs. Similarly, most of the big companies have teams to reach out to SMBs.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

We wanted to ensure that this meeting solution does not diminish the real-life experience in any way...
...We ensured that the alignment of cameras, speakers and display was spot on for best possible experience.

CXO Speak

Chris White, Vice President, Chief of Staff for Cisco Globalization Center East

Chris White is VP, Chief of Staff for Cisco Globalization Center East, Cisco's second global head quarters. He is responsible for expanding, coordinating and evolving all the commercial priorities for this new center. Its objectives are to accelerate the growth of the emerging countries with a closer new support model, implementing Cisco's globalization strategy partnering with India and creating new innovative go to market strategies. An 11 year veteran, before this role Chris was Cisco's top VP/GM in the US, his exceptional track record exemplified aggressive adoption of new go to market strategies, leveraging a diverse team, partners and services for high growth success. We talked to Chris about Cisco's new initiatives in India.

Q These days we see a shift in communications from e-mail, SMSes and chat to video conferencing, telepresence solutions and unified communications. What were the challenges that you faced during the deployment of a TelePresence solution?

Getting the right experience was the biggest challenge. We've all seen how legacy video conferencing solutions work. They don't provide the look or the feel of a real-life meeting experience. So, we took great care to ensure that very high-end equipment was used in this TelePresence solution. We ensured that the alignment of cameras, speakers and the display was spot on for the best possible user experience. We didn't want to cut any corners by compromising on space or the interior décor.

Q How do you think such a solution can help large enterprises?

Cisco has a large number of branches spread all across the globe. A lot of productive time is wasted by its employees during travel. This meeting solution was conceptualized keeping this concern in mind. At the same time, we wanted to ensure that it does not diminish the real-life experience in any way and the users should feel the same as they would when meeting face-to-face. Using this solution, we have been able to cut down our travel budgets by 20%. Another benefit would be that an employee can stay in touch with his family when on tour.

Q What's your aim behind the globalization strategy initiative in India?

We are looking at maturing markets in India and South-east Asia to fuel growth and innovation. For that, we need to put in a significant resource base here to utilize the enormous talent available. The Indian Govt. has been very helpful in helping us drive this initiative.

BEST IT IMPLEMENTATIONS OF

Top 10 Challenges Faced by CIOs in IT Projects' Implementations

After going through many IT projects and meeting many project heads, we came across a number of challenges that were common across all implementations. Today, if you were to start a new IT project implementation, then these are the key challenges you're likely to face.

1 Change management

Teaching something new to a fresh mind is often easier than teaching to a trained one. That's one of the key challenges of change management. So if a company employee is already used to working in a particular way, teaching him to change and follow a different way by using IT is tough. Scale up this situation to a large enterprise with thousands of employees spread across the country, and you have a gigantic problem at hand.

2 Getting funds from the management

This is a universal problem that will emerge every time you need to roll out a major IT project, even if you have your annual IT budgets sanctioned. Ultimately, every project needs a business justification.

3 Handling attrition

What if a key person who was handling a very important part of your IT project leaves for greener pastures? Do you have a backup or will your project be in a soup?

4 Interoperability

Any large IT project is likely to use different types of software and hardware. Chances are that the new solution would have to be integrated with some of the existing ones. Ensuring that it integrates seamlessly and operates well with the existing system(s) can be tough. Moreover, since the new system will have software, solutions, and services from different vendors, you're likely to face another interoperability issue there—that of ensuring that many vendors work together seamlessly!

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5 Identifying processes for automation

This is easier said than done. Every organization has hundreds of processes for everything and in every department. Judging which process to automate and in what sequence is not easy. In fact, one of the insights we have gained is that automating a wrong process can be detrimental for an IT project, leading to cost overruns.

6 Keeping costs under control

: It's the bane of all project managers. No matter what the funds you have been sanctioned for your new IT project, it's likely to exceed that. The project head has to ensure that it doesn't overshoot too much. How much is 'too much' is another tough question because there's a fine line between keeping costs under control and skimping on the spending.

7 Project plan justification

Every IT project is going to deliver business or social benefits, but the question is when? If it's immediately, then there's nothing to worry about. But if it's going to be some time in the future (which it most probably will be), then a well structured project plan is a must. Keep all those details about what will happen at each stage ready, because you have to justify why it's going to take so long to show results.

8 Scaling up—working in a limited space

A typical problem that enterprises are facing today is of adding more equipment in their already over-populated data centers. The need for IT is growing faster than the amount of equipment that the data center can handle. So every time a new IT project comes, then one of the first things that the CIO or project head has to worry about is making space in the data center for the equipment that would be used for the new project.

9 Scaling down—consolidation

This is actually a solution to the previous challenge of scaling up, but it's a challenge in itself. If you already have a large data center with hundreds of servers for instance, then migrating them into a fewer, more powerful servers is no mean feat.

10 Training a geographically dispersed team

Ultimately, as you automate your branch offices, you'll need people there to manage it. Training them for the same is not easy, and the problem intensifies with more branches.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Agriculture/BFSI

Surat District Cooperative Milk Producers
OICS

Surat District Co-operative Milk Producers' Union (SUMUL) has replaced traditional private milk traders and made dairying a popular source of income among the tribals who comprise a major part of the population of Surat district. SUMUL has automated the whole process from milk collection to selling and marketing. As part of the project, SUMUL deployed the Automatic Milk Collection System (AMCS) in 388 village societies. The AMCS consists of a Village Society Accounting Software—which is also available in the village's local language, a Milk tester, weighscale and systems to feed in milk-related data. SUMUL has implemented a document management system for tracing the documents. All documents in SUMUL are entered into the system by the dispatch department.

The inventory modules let SUMUL keep track of their products online. The Animal Information System module lets them track medicine consumption from the medicine stores to the village level.

With MIS reports, milk collection data is easily available according to zones, talukas and societies.

Project Specs

Business problem: Dairying process was totally manual

IT solution: A workflow automation project called the Online Integrated Computerized System was launched

Impact: Social development of the village and more realization of milk to farmers

Implementation partner: NCDFI, HP

Project Head: Satyen Naik, Manager IT

Dewan Housing Finance Corporation
ILMS

This company offers home loans, NRI loans, plot loans and mortgage loans, and accepts term deposits from the public. To improve customer service, turnaround time and cross-selling, they developed a Web-based application—Integrated Loan Mgmt System. It allows classified users to generate freely configurable business reports from the database, which helps the management personnel speed up decision making. quickly make business decisions. Users have access to an off-line control of the same package, where they can change, correct, add, delete, process and upload data. The application takes care of all parameters of a housing loan, from the point of receipt/ generation of an enquiry to the point of final disbursement, and thereafter, loan servicing. The software can incorporate any type of new product (mortgage product), and requirements, specific to special customers. To support main module, various other modules such as Cash Mgmt, Document Management, Debts/Liability Management, Audit Module; etc have been incorporated. The application allows easy delegation of sanctioning powers to Branch and Zonal Managers through a few mouse clicks.

Satish Kotian, Head IT

Project Specs

Business problem: To keep pace with growing business, the company needed to speed up its operations

IT solution: They developed a Web-based application to cater to all aspects of housing finance operations

Impact: Loan sanctions are possible within a few hours, customers can make payments across all branches.

Implementation partner : Inhouse

ICICI Bank
Security & Patch Mgmt

ICICI Bank felt that it was necessary that each device on the network was always updated with the latest patches, had up-to-date antiviruses, and was free of malware and spyware. Therefore, the

bank's Information Security team decided to centralize and automate the process of updating and rolling out patches.

This project was undertaken to assure a secure working environment for critical business functions, and to protect the customers' sensitive data. This called for a centralized security management architecture that would carry out the inventory of information assets, analysis of threats, (identification of vulnerabilities and security holes), patch management, malicious code prevention as well as port control. LanDesk would have allowed them to manage and monitor a client-server environment,

Project Specs

Business problem: Updating each device with the latest security patches took a lot of time

IT solutions: LanDesk, customized to inhibit selected applications from launching

Impact: Secure working environment for critical functions and effective protection for sensitive customer data

IT Implementation partner: Allied Digital

but was not sufficient. The bank decided to tailor the deployment to inhibit selected applications from launching, in order to protect against corporate prohibited applications, protect data leakages through centralized port control, implement hardening policy and

Sunil Dhaka, Head IT

carry out real-time audits. Automated patch management and the removal of spyware and malware is already operational. In the next phase, ICICI plans to deploy features like Network Admission Control, Server Manager, and Software License Monitoring. The hardware and software used is heterogeneous, and comprises four dual core, dual CPU, AMD Opteron servers, with 2.19 GHz processor speed and 4 GB RAM; clients with Win 2k/XP with 128 MB RAM, P III and above; .NET Framework 1.1, Oracle 9i, MS SQL Server 2004, and more.
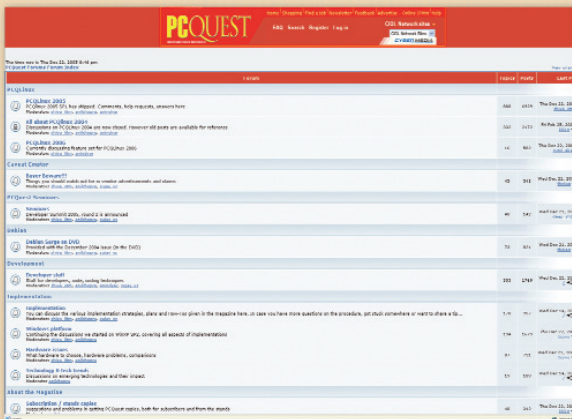
ICICI Bank
Virtualization & Consolidation

ICICI Bank has a huge Data center with around 700 servers. The biggest challenge for them was to stop procurement of new servers as they were running out of real estate. Other concerns were the power consumption of this data center, and the need for quick re-deployment of servers in case of any failure.

So they consolidated all their servers by removing old and slow machines and getting the latest and fastest ones to run virtualization applications to maximize their output. As a result, they acquired around 39 SUN Fire x4600 Servers with 8 dual core AMD 2.5GHz CPUs, which means in total 16 cores in one server. The server also has around 32 GB of RAM. Now on each of these 39 servers, VMWare ESX Server was installed. The virtual disks of all the virtual machines running on these servers are stored centraly on a SAN. They are accessed over either FC or iSCSI. The management is done through a tool called VCMS (Virtual Center Management System), which lets a single interface monitor and manage all the virtual machines.

Total number of virtual machines running in the ICICI data center is around 175, which includes production, UAT and development servers.

Project Specs

Business problem: To save data center real estate and consolidate servers

IT solution: Used VMWare for vitalizing and consolidating the servers

Impact: Now one physical server is capable of running around 42 virtual servers. So instead of 126 U, only 3 U is being used, saving major space

Implementation partner: Inhouse

Project Head: Muralidhar Ayyagari, AGM

ICICI Bank
Business Rules Engine

The Business Rules Engine (BRE) ensures policy compliance by putting deviation and mitigants into the system. Blaze from Fairlsaac is the product that has been implemented for BRE, and it runs on a Pramati server in an Active-Active cluster. The rules are written by business-in-development interface, and are tested for accuracy by uploading test cases within the application.

The rules are then deployed in a UAT environment, which is interfaced with various applications like the Application Processing System, etc, to check results. Once the working of the rule is confirmed, it is deployed in the form of an XML file.

Any changes to these XML files triggers the BRE to refresh the cache, allowing hot deployment. BRE nullifies the risk of a physical copy being leaked out to competitors.

It ensures that all policies are directly fed into the engine, and that only a handful of people responsible for maintaining the policy know about it.

BRE enables businesses to change the policy themselves in real-time without the intervention of any vendor, thereby reducing the time taken to change the policies, and keeps policies within a closed user group.

Project Specs

Business problem: Correctional changes in new policies were time consuming, as vendors intervened

IT solutions: BRE puts deviation and mitigants into the system and provides the ability to change policies

Impact: Enables policies to be changed on the fly and maintained within a closed group

Implementation partner: NSEL and Fairlsaac

Project Head: Sanjay Sood, Assistant General Manager

ICICI Bank
Fraud Prevention System

Today, in the banking sector, the most critical problem is tracing fraud transactions. ICICI's Fraud Prevention System is able to assign risk scores to each e-commerce transaction and identify suspect transactions. The key basis of risk scoring is device ID. The application checks whether the mailing address is the same as the one registered with the merchant, whether the name on the card is the same as that of the registered user, which commodity is being purchased, the travel time between two transactions, the geographical location, card velocity, etc.

The application uses a Tracker, a Risk Analyzer and a Fraud Simulator. Bharosa's Tracker does the risk scoring for each transaction based on the models developed through the Risk Analyzer and the case management for suspect transactions. The user is profiled by integrating Bharosa's tracker with Internet banking.

Once profiling is done, FPS suggests whether the transaction should be allowed or rejected or whether the user should be asked for further authentication or given restricted access. It can monitor the behavior of users, and if any unfamiliarity is encountered the transaction can be stopped immediately.

This solution is meant to remove altogether, any worries that customers might have about transactions they never made. Since it reduces the risk of any fraudulent transaction for a customer, it helps the banks to improve customer satisfaction and enable them to retain their elite customers and serve them effectively. It also helps the banking sector grow both economicaly and socially. By reducing any fraud transaction it is bound to improve the use of e-commerce in India.

Project Specs

Business problem: Fraudulent transactions are a big threat to e-Commerce

IT solutions: The Fraud Prevention System enables the risk scoring of e-commerce transactions and identifies suspect or high-risk transactions through behavior patterns.

Impact: A strong step towards preventing fraud transaction in the banking sector is bound to have huge impact both economically as well as socially.

IT Implementation partner: Bharosa, Opus, Infosys

Project Head: Sanjay Sood, Asst. General Manager, ICICI Bank

> The application uses a Tracker, a Risk Analyzer and a Fraud Simulator. Bharosa's Tracker does the risk scoring for each transaction based on the models developed through the Risk Analyzer and the case management for suspect transactions.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

BFSI

ICICI Bank Ltd
TechFlow

When ICICI Bank was conceptualizing its TechFlow application, all major process controls within the technology domain were carried out manually and on paper. The TechFlow application was to replace manual processes with automated standard processes for decision-making and sign-offs to ensure compliance with audit and SOX requirements.

The main purpose of the system was the execution of change management, bugs fixing, new application development and logical access management, in a controlled and structured manner. The system provides audit trails and real-time reporting of various events based on the size of projects, ageing, costs, etc, and provides a dashboard facility that gives top management views with a drill-down feature.

The TechFlow application has standardized and streamlined IT processes, leading to increased operational efficiencies. It gives greater control over technology operations and provides the ability to adapt to changes.

The project removed paper documentation as all deliverables and actionables are being recorded in TechFlow, with online sign-offs at various approval stages. Another interesting thing about the project is the diary concept, where users can post comments against active projects in the application.

Project Specs

Business problem
Meeting SOX compliance

IT solutions
An application was deployed which provided better process control

Impact
ICICI Bank is now SOX compliant

IT Implementation partner
3i-InfoTech

Project Head: AS Das, DGM

IL&FS
UPTM and VPN

Originally, most of the IISL (Investsmart Limited – a part of IL&FS) offices across India were connected over leased lines and used to proxy through the head office to access the internet. This was done due to security reasons. However,such a setup soon led to problems such as heavy traffic on the head office and slow internet connection and mail routing. This also led to latency in the core business applications and intranet. Therefore, the company decided to provide broadband internet connectivity to all the locations, so that mail routing and internet access could be used locally. However, the prime issue of security remained. To solve this problem, they deployed Gajshield UPTM (Unified Protection and Threat Management) appliances across all 40 locations and used it for mail and internet access. Additionally, this link was used as a backup for the existing leased line. For instance, if the leased line fails, the broadband internet link is used over VPN to connect to the head office for the core banking applications as well.

Nadir Bhalwani, Head - IT, IL&FS

Project Specs

Business problem: Provide secure internet connection to all the branch offices across India, provide a fail safe link between the branch offices and the HO

IT solutions: Deployed Gajshield UPTM at all the locations over a redundant broadband connection

Impact: In the same cost, the company achieved redundant connectivity for back office tasks and secure local internet to the branch offices

IT Implementationpartner
GajShield Infotech

Kotak Mahindra Bank
Internet Banking

Kotak Mahindra Bank is a new entrant in the banking sector. They have implemented Internet banking that enables the bankers to reach out to a large base of customers and provide seamless

services 24x7 across all locations. This project has enabled the bank to put in a more robust, safe and scalable internet banking platform to meet the growing number of our customers who transact over the Net.

An innovative offering is the in-house developed 'Webpay' for corporate customers to transfer funds to their business partners, employee accounts, etc by a single file upload.

It offers distinctive facilities like auto reversal, multiple authorizations across geographic boundaries, host to host linkages as well as comprehensive enquiries/reports. Through this Internet Banking platform, the bank also provides online bill payment and online shopping facilities. Customers can also transfer their funds for onlinetrading. This is made possible through a robust; highly parametrisable internally developed Kotak Bank Secured External Gateway.

Banking platform is based on the robust, horizontally as well as vertically scalable IBM Web sphere & TAM (Tivoli Access Manager) architecture.

They use World Class Open J2ee technology deployed on IBM product suits (IBM Web Seal, IBM TAM, IBM WAS). There is also provision for the one-time usable NET Card with a 24-hour validity, which enables secure online payments as the card is exposed to the rather unsafe Internet.

Project Specs

Business problem: Bank needed to put in place a more robust, safe and scalable Internet banking platform to meet the growing number of our customers

IT solution: Existing Internet banking solution upgraded to serve all customer needs under one roof

Impact: Enhanced distribution reach, increase in growth rate and number of transactions

Implementation partner : IBM

Project head : Sanjay Gupta, Sr Vice President-IT

UTI Bank
E-commerce Portal

UTI Bank required a trading interface to enable their clients to trade in Indian markets. When trading through normal brokerage firms, a customer can transact once funds have been transferred from the customer's bank account to broker's bank account. However, if the purchase transaction was not successful for the day, the customer's funds remain with the broker and are transferred back only at the customer's request. To take care of such issues, a B2B interface named SETU (Seamless Electronic Transactions From UTI Bank) was created, through which UTI Bank provides access to block, de-block, and transfer of stock and funds. A B2B application was developed to connect to SETU server at UTI Bank. This was integrated with GFSL's order management server for various functionalities such as online blocking of shares at the time of stock selling by a customer.

As a result, blocking, transfer and release of funds is done in real time on UTI Bank's core banking system. Also, funds are blocked at the time of transaction only. It also ensures there are no unnecessary fund transfers between broker and client.

Project Specs

Business problem: UTI Bank needed an interface for their clients trade in Indian market

IT solution: An E-commerce portal was created

Impact: Bank Customers can trade online through the UTI Bank Portal

Implementation partner: Geojit Technologies

Project Head: Jiji Jose K, Project Manager, Geojit Technologies

Following are the major modules of this new product: Customer Care Site , Trading Web Front End, Backoffice Application.

ITC
SMS Solution

ITC has a large sales and distribution workforce spread across the country, which frequently requires information from the central SAP system. Earlier, the sales and distribution teams had to communicate over the phone, which was a time-consuming process; it took them at least 15-30 minutes to get the relevant in formation.

ITC implemented a solution from ValueFirst called VelocityPlus—a two-way SMS communication application. It enabled ITC to push the information directly through SAP and allowed dealers, sales force, and employees to pull the information directly through SAP.

With this, the time to get required information is reduced to a minute.

ITC uses SMSes for various purposes, such as Advance Shipment Notification, Trading Balance Update and New SKU dispatch intimation. The ValueFirst Messaging Gateway provides incoming messages and delivery reports to ITC SMS Service, which is pushed to the ITC Web server.

Similarly ValueFirst ITC SMS

Project Specs

Business problem: Keeping sales and distribution workforce updated with latest information

IT solution: SMS solution deployment with interface to SAP

Impact: Time to get relevant information has reduced from 15-30 minutes to less than 1 minute

Implementation partner: ValueFirst Messaging

Project Head: Shantanu S Chauhan, Chief Software Architect, ValueFirst Messaging

Service queries the ITC Web server for new messages to deliver and on valid messages to send.

Multi-vertical

ITC
Project One

Information technology integrates the entire operations of the retail initiative at ITC from 'fiber to fashion'. But they needed one solution that would be able to handle complexity of the apparels' retail land-scape, be able to parallely process information, in a heavily interdependent environment. Therefore, they decided to go for deploy- ment of an enterprise-wide solution that is nimble and also must be able to anticipate more often than to simply react. The solution should be able to handle a variety of segments, variety of fashion lines, clothings for both sexes, for all seasons, for all occasions, product segmentations, etc. The solution should be intelligent enough to understand the needs of business. The software must be able to generate and handle an inordinate large number of SKUs. It should also cover distribution through company-owned retail outlets. To handle such vast complexity, the solution should provide nearly 100% uptime of IT systems—connectivity, replication routines etc.

All these challenges called for the conceptualization of 'Project One', a suite of IT solution consisting of multiple software systems in-

Project Specs

Business problem: ITC required a consolidated retail solution that would be nimble and also must be able to anticipate more often than to react

IT solution: Deployment of Project One that is not just an ERP solution but also aids in SCM, CRM, etc

Impact: Internal efficiency gains & improvement in sell through

Implementation partner: Groupsoft Technologies, ITC Infotech

cluding a core ERP for transaction processing, BI Solution covering dynamic reporting and business decision support, POS solution, Smart Card based loyalty solution for consumer delight, various planning tools and KPI based SMART engine to facilitate employees to carry out their tasks. The solution has been designed to eliminate key bottlenecks and offer new features appropriate to apparel and retailing. It is running on state of the art data centers on highly secure and reliable platforms across stores and warehouses spread across the

Prabir Sengupta, VP Finance & IT, LBRD

country, in a distributed computing environment.

This has enabled Stock visibility across supply chain from vendor to shelf; optimize inventory levels for savings on interest cost and improved ROI, efficient inventory management and control; allow for better handling of customer returns, order tracking and loyalty points management, etc. The solution uses predator and Movex (core transaction processing system) for information management. IBM i-Series server is used for Movex ERP while Microsoft platform was chosen for other applications. All the Web Servers, PAS server, AD Server & BPW server are based on MS Windows 2003. DB2 is the database for Movex while MS SQL Servers are used for rest of the application.

Puravankara Projects
Project Success

The growth in scale and geography of Purvankara Projects, a Bangladesh-based construction and real estate company, was supported through Tally (accounting package software) and Quadra (software that caters to the information processing needs of the construction and real estate industry), which were both stand-alone.

As a result, there was no integrated platform that gave consolidated reports or helped track processes on a near-real time basis.

They wanted an ERP solution that would synchronize core business processes, streamline operations, and achieve accuracy and ease in reporting.

For this, they decided to deploy Oracle E-Business suite. The project is in Internet Computing Architecture where users are able to access applications over the Internet.

Necessary firewall and security measures have been deployed. With this ERP system in place, the Purvankara group is aiming to achieve integration efficiencies in cost, logistics and distribution; stock control, planning, and project management and control across South India (some parts), Colombo and Dubai.

Now, there is a standardized process for selecting suppliers across geographies.

Project Specs

Business problem: There was no integrated technology platform to handle business processes

IT solutions: Implemented Oracle E-Business suite to take care of ERP

Impact: Account closing in five days, report enhancement

Implementation partner: IBM, KPMG

Project Head: Ravi Ramu, CFO & Dir Finance, Purvankara Projects

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Amity Group
Unified Secure Network

The Amity Group is rapidly spreading its network of educational institutions across the northern belt. But to provide uniform study material across all locations and to make their network more secure, they were required to unify their independent networks. This project has unified five Amity campuses, encompassing 4500 desktops and 3000 laptops. The majority of the users are students. Previously, with disparate networks, they faced security challenges such as hacking, spam, viruses, etc. To tackle such challenges there was a need for more secure networks and continuous monitoring for all Amity locations. The configuration, implementation and maintenance of all independent networks for each location were the other big challenges. After unification, they can now set uniform IT policies for the Internet, app software and tutorial packages. The project works on a hub and spoke model, where the Domain Server, Antivirus Server and WSUS Patch Management Server of spoke locations are being managed by the Central Hub remotely, as and when required. A single gateway access has been set up for the external world for all locations, to enhance security.

J.S. Sodhi, Head - IT

Project Specs

Business problem
With increasing number of campuses, there was a need for sharing common courseware and enhancing security
IT solution
Various independent networks were unified to provide common access to all resources
Impact
Single location manageability resulted in less investment in hardware, maintenance and skilled manpower
IT Implementation partner
In-house

Directorate of Education, Delhi
Process Re-engineering

Government schools have been witnessing a lot of problems in managing admissions on time—there are more dropouts, and there is diminishing attraction amongst parents and students to join them. As a result, the Directorate of Education decided to introduce CAL (Computer-Aided Learning) and MIS to disseminate education amongst 1000 schools, 9.5 lakh students, and a staff of about 40,000 teachers and administrators.

A Web-based MIS system that captures workflow and processes of all departments (like HRM, finance, infrastructure management) and reengineers them to suit the demands of modern and efficient work procedure, has been implemented in the DoE, Delhi.

The multimedia lessons that have been developed as a part of CAL and MIStoonZ take less time than that taken by the 'chalk and talk' method in the explanation, thus, leaving teachers and students with more time to practice.

It has brought best practices into practice as the lessons comprise of collective wisdom. It also enables online student feedback, online inspections of schools, online teacher-wise assessment of classroom teaching, and the online attendance to check truancy.

Project Specs

Business problem: The lack of CAL and MIS in schools was found to be a cause for drop-outs and less enrolments in government schools

IT solution: Complete process re-engineering using CAL and MIS

Impact: The number of students in class VI increased by 14%, admission process time decreased to 15 days from 75 days

Implementation partner : In-house

Project head : Ashok Kumar, Project Manager (MIS & CAL), Directorate of Education

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Frankfinn Airhostess Training Academy
Web-ROM

Frankfinn Airhostess training academy needed to provide a solution to its client for offering e-learning to about 25,000 learners in a cost effective manner. As a result, LIQVID developed a solution called WEB-ROM, where they integrated the Web with the CD-ROM. The CD contains all the soft skill simulations that are part of the learning. For authentication to use the CD, the learner needs to connect to the Net. This took care of the bandwidth issue, as even if the learners connected via dial-up, they could still access the simulation program. The architecture involves an Asynchronous LMS Session. The main session is maintained locally and the LMS session is invoked on a need basis during a learning session through Single Sign On. The LMS Connection module connects only for authentication, progress and content expiry, resulting in less than 10 Kb of data exchange between the local course and the online LMS. This solution gave anytime anywhere usage flexibility. As main content is on the CD, only authentication is needed to be able to use content.

Project Specs

Business problem: The company wanted to provide soft skill training in the field of ELT (English language-Training) and ESP (English for Specific Need) at a low cost to maximum number of students

IT solution: Integrating Web and CD-ROM

Impact: Maximum reach without any bandwidth constraints

Implementation partner: LIQVID E-Learning Services

Manish Upadhyay, CLO, LIQVID E-Learning Services

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Education

Rajiv Gandhi Tech University
Knowledge Universe Portal

This project from Rajiv Gandhi Technical University, Bhopal is a portal solution, enabling collaboration among students, academicians, industry experts and various other entities of RGTU. The main objective was active and dynamic participation from all quarters to expand and enrich the knowledge of each individual. This portal can invite external experts to share their expertise with the students. It has branch-specific links; for instance, a student interested in electronics can go to the electronics link under I-Learning option. The application used .NET Nuke and was hosted on the web server of RGTU, which had Windows 2003 along with IIS 6.0 and SQL Server 2000. The portal made students' lives easier by enabling discussion forums and blogs, via which students can interact with each other and share their knowledge. The portal also provides general information to all the students of the latest happenings inside the campus like campus drive news, latest technology news, activities inside the campus, and so on. This project was initiated in December 2006 and was completed in April 2007, a month before the stipulated deadline. The next phase of this project includes a separate dedicated web server for "KU" along with leased line to handle heavy traffic, followed by team expansion and then, finally, user training at colleges. The project is still in the beta stage and will be fully active by September this year.

Project Specs

Business problem: They wanted to provide the student a single platform to interact and share knowledge

IT solution: Built a portal solution

Impact: A solution for students to share knowledge and work

Implementation partner: Citywala Infotech

Project Head: Rajeev Sood, Project Officer EDC, RGTU

Agharkar Research Institute
Implementation of IndGRP

Agharkar Research Institute is a not-for-profit biological research institute. The institute felt the need for a fully integrated ERP/MIS product. They were looking for a platform independent, web enabled system that could seamlessly integrate the various processes across different divisions/groups/sections in the government establishment with embedment of Indian Government rules and regulations.

After testing different ERP solutions, they realized that none of them incorporated compliance with Government rules and regulations. Finally, they came across a company called Inkroma, which specializes in GRP (Government Resource Planning) solutions. The software is an ERP solution with out-of-the-box support for Government guidelines.

The system has 122 modules seamlessly integrated with each other. It runs on RedHat ES 4, the database server is Oracle 10g, and WAS NG 6.0 is used as the Web server. The servers used for this system are two Dell Rack Servers with Dual core Dual Processors with 4x143GB SAS Hot Plug Hard Drive.

There are around 100 plus desktops/notebook PCs used by more than 250 users. All the nodes run Windows XP.

Project Specs

Business problem: Lack of coordination with functional units, no information to support critical decisions, scattered files over individual desktops and repetition over and within functional groups

IT solution: Implemented a GRP Solution with 122 modules which can automate all the admin tasks in the organization

Impact: All 250 employees of the company use the GRP system for all types of admin related tasks

Implementation partner: InKroma e-Business Solutions

Project Head: V S Rao, Director, Agharkar Research Institute

DSIIDC
Barcode Solution

Delhi State Industrial & Infrastructure Development Corporation (DSIIDC) constantly received complaints from customers about DSIIDC shops overcharging for liquor and not providing the de

Surinder Kapur, CIO

sired brands. To solve this problem, DSIIDC has developed a barcode solution in-house for deployment at its shops. The Excise Department of the Government of NCT of Delhi has issued instructions to all the L-I to provide 13-digit barcodes on the label of each bottle. Under the system when goods are received at shops, their barcodes are scanned and the database is updated. When a bottle is sold, its barcode is scanned again, which is verified by

Project Specs

Business problem: To bring transparency in the sale of liquor

IT solutions: A barcode solution is deployed at every DSIIDC liquor shop

Impact: Sales can be tracked easily, DSIIDC can effectively keep track of sales

IT Implementation partner: In-house

the system installed at the shop, which in turn displays the value of the bottle(s) being sold. The customer thus knows how much he has to pay for the items purchased. Immediately, stocks are also reduced from the database. This ensures that there is no overcharging and sales of liquor can be tracked easily. Earlier, the sales reports at each shop were compiled every weekend and sent to DSIIDC, based on which DSIIDC made further decisions. With the barcode solution in place, sales reports are made at the end of every day and sent to DSIIDC.
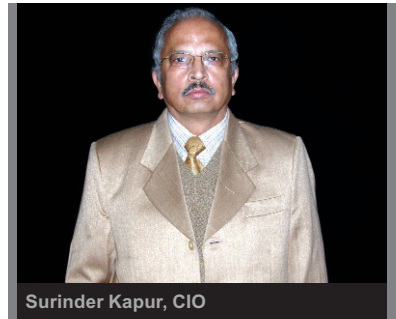
Government of Andhra Pradesh
CDSC

Project Specs

Business problem: Entire process was person dependent. If the staff or CTO were not available in the office, no forms could be issued.

IT solutions: Converted the entire process of acquiring sales tax forms into an online system.

Impact: Reduced interface between tax collectors and tax payers. Transparency is built in once one's time parameters are fixed by CTO

IT Implementation partner: CTD & APTS

This Computerised Dealer Service Center (CSDC) project was initiated by the Commercial Taxes Department to computerize the processes of the dealer centers, so that transparency, reliability and convenience could be established between the DSCsand dealers. Previously the entire dealer service was cumbersome, and dealers had to go through a number of processes to acquire various sales tax forms. The entire process was person dependent. If a staff member or CTO was not available in the office, no forms could be issued. To overcome such issues and minimize human interaction, the department implemented an online system where dealers can register for services. The CTO fixes limits on the number of forms that a dealer can indent, and a limit is set. This is a onetime activity by the CTO. The dealer can log in to his account. The system will display his eligibility/ineligibility and the blank form still available with the dealer from previous indent. This shows the status of monthly returns filed by the dealer, and tax default if any. The dealer can indent any number of forms up to his eligibility limit. The system indicates cost of forms, transaction charges and courier charges. The dealer makes the payment either through credit card or using the lump sum advance deposit made to CDSC. Once the dealer has made his submission, a confirmation mail is sent to him. Then the Centralized Dispatch Centre will dispatch forms within 24 hrs of receipt of request.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Government

Government of Andhra Pradesh
APREGS

This is a software application for the NREGA(National Rural Employment Guarantee Act) project(See Page 124) that provides at least 100 days of guaranteed wage employment in every financial year to every household whose adult member can do unskilled manual work. Earlier, workers were not paid on time or not paid at all. Also women would be paid less. Fake registration was common. To enable better management, the AP government along with TCS developed a software application in which all the details of a worker could be maintained. When a worker comes to register himself, a unique ID card is provided to him. The photo is captured from the civic supplies department ration card to prevent identity fraud. If they need to trace the worker they can refer to his ID. This has reduced the time required to generate the wages of workers to barely a few minutes, from 15-20 days. The availability of funds is also indicated after every payment is made. Data is uploaded to the state server through a data network, dial up connection or even physical media. It is then uploaded into Oracle RDBMS server using specially developed tools for verification, validation and data pre-processing.

Project Specs

Business problem: Lack of work ready for execution led to fake registrations, inaccurate reports and women getting paid less.

IT solution: Using this application, they are able to keep track of each worker.

Impact: Workers are now paid correctly and on time. Fake registration is no longer a problem.

IT Implementation partner: TCS

Project Head: Dr. M. Padma, Jt. Commissioner (M&E)

Government of Andhra Pradesh
GIS-based DSS

To get proper benefit out of Soil and Moisture Conservation Work, it was needed to determine the exact geographical location where it was required. Remote Sensing, GIS (Geographic Information System) and GPS (Global Positioning system) were used to scientifically determine the best geographical location for water harvesting structure. Since the database was already developed within the department, they also got a ready made Decision Support System (DSS) for the field officer to help him know the exact place. Using the three technologies they can now determine the best location within the forest for setting up the water harvesting structure. This has saved them time and money, and removed any scope for personal biases of the staff involved. The water harvesting structures improve water regime, eco-system and land productivity, ensuring all round development of the society. Since WHS was implemented in proper sites, this has led to innumerable benefits in the form of improved water tables, improved vegetation cover, improved crop productivity in Forest Fringe Villages. The time and energy needed to identify suitable sites is reduced considerably giving the staff much needed time for planning and execution. The prioritization helps in effective use of funds.

Project Specs

Business problem:
A DSS was required for officials for constructing water harvesting structures.
IT solution
Technologies like GIS, remote sensing and global positioning system.
Impact
Choice of the best possible location for water harvesting structure became easier.
IT Implementation partner
In-house
Project Head
A.K. Naik, Conservator of Forests

Center for Good Governance
Urban Water Supply

CGG developed an online information and monitoring system which enables them to keep track of water supply across the region. They used DSS tools and a GIS-enabled web application

for better monitoring of supply water thus providing the administrator and the field officer the option to take necessary decision when and if required. While designing the GIS report, they considered some key parameters, like per capita supply, frequency of supply, mode of supply, etc. They have key indicators and parameters for each sector. The GIS report is extensive and one can easily drill through state/district municipalities. Now they can easily indentify the gaps in demand and supply in providing water, and can then allocate the resource. During summer, they can check the availability of water in the summer storage tank, which helps in judicious planning to meet the summer needs of the municipalities. The online information and monitoring system accomplishes the task of building the municipality infrastructure of water supply sector of ULB in a detailed manner. It stores information like the installed capacity, treatment capac-

Project Specs

Business problem: Need for a system for dynamic mapping, analysis and decision making
IT solution: An online DSS (decision support tool) and GIS-enabled web application for effective monitoring of water supply
Impact: Better water resource allocation
Implementation partner: In-house team
Project Head: Dr. Rajiv Sharma, Director General, Center for good Governance

ity, per capita treatment, source of supply, status of bore, etc. The DSS was developed using open source technologies, mainly to make it platform independent and keep its size to moderate level.

Finance Dept, Govt of Bihar
e-KHAZANA

Earlier, various activities of the Government of Bihar's Finance Department, like budget preparation, treasury accounting, and Provident Fund subscribers' account slip generation were

manual. It was difficult to monitor the expenditure and receipts at the Finance Department. The treasuries' accounting was delayed by 16-24 months in sending monthly accounts. To solve all these and more problems, NIC developed an in-house project called e-khazana. The project automated the entire revenue administration, from budgeting to expenditure monitoring through treasuries, by capturing each transaction of payment and receipt with required validations. It also automated activities of the PF offices. It captures all the transactions related to subscription, refund, and advances towards PF accounts. With this project, there is no duplication of data and fraudulent withdrawals can easily be checked through the centralized DDO code.
Post implementation of the project, all the treasuries send their monthly accounts by the 5th of every month. Once the data is received at the NIC server, various MIS reports are prepared for the Finance Department. These MIS reports provide great help to the Finance Commissioner and budget officers for budget preparation and in other decision making. e-KHAZ-

Project Specs

Business problem: Manual processing delayed accounts

IT solution: A workflow automation solution was developed and deployed

Impact: Treasuries now able to send their monthly accounts on time.

Implementation partner: NIC Bihar
Project Head: Ashok Kumar Mohanty, Principal Systems Analyst, NIC, BRSC, DIT

ANA has been implemented in 41 treasuries and 17 sub-treasuries of the Government of Bihar. In automation, 10 to 12 clients were deployed at each treasury and four to five clients were deployed at each sub-treasury.

Government of Gujarat
IWDMS-DigiGov

Most of the work done by government departments is workflow-intensive—there is a lot of information flow in the form of files. This necessitates the creation and maintenance of data bases that hold data critical to the decision-making process.

Integrated Workflow and Document Management System (IWDMS) provides Document and Workflow Management, Collaborative Environment and Knowledge Management in an integrated fashion and delivers an Electronic work place which results in productivity improvement. It helps generate progress reports, reports based on statistical data and other facts and figures.

These are generated from databases that store such information. IWDMS is intended to address all these requirements, and also other aspects such as security, filing systems and applications that enable users to perform their work.

IWDMS is a J2EE-based n-tier solution that uses MVC2 architecture and can be deployed on any J2EE application server on any platform (Solaris, Windows, etc). Any RDBMS (Oracle 10g Database, SQL Server or IBM Db2) can be used as backend, although Oracle 10g has been extensively used.

Project Specs

Business problem
Tracking of files, availability of relevant documents
IT solution
A J2EE-based n-tier solution that uses MVC2 with Oracle 10g at the backend.
Impact
Improved file tracking and retrieval which ensure faster response to citizens' queries.
IT Implementation partner
TCS
Project Head
Pankaj Kumar Gupta, Sr. Consultant - Govt. Industry Practice, TCS

Government of India
NREGA

NREGA (National Rural Employment Guarantee Act) is an e-governance project developed by NIC for the Ministry of Rural Development. Through the NREGA portal, each user can access information related to him. The user can be anybody—a citizen, Gram Panchayat, Zila Panchayat, workers, State R&D departments, Ministry of Rural Development, the administrator in the government, etc. NREGAsoft captures information about the registration of the worker, work demanded, number of days of employment for the entire family, funds transferred, etc. It is mainly built on a household survey. It enables faster information exchange between the various users through the internet and also gives the user the right to information.

This information can also be provided in the local language of a village. There are various modules covered by it, catering to the different needs of the users. The main advantage of this project is that anyone can access information any time.

People in remote locations, that do not have any Internet connectivity at home can access the information offline by just downloading it from a nearbycomputer facility.

Project Specs

Business problem
Manage the NREGA scheme and provide information access to masses.
IT solutions
Portal solution which provides vital information to the masses.
Impact
Faster information exchange amongst various stakeholders, payment of wages through bank/post office.
IT Implementation partner
NIC DRD Informatics cell, Krishi Bhawan.
Project Head
Madhuri Sharma
Technical Director, NIC

Government of Karnataka
BangaloreOne

B angaloreOne (B1)–Integrated Citizen Service Centers (ICSC) is an example of how IT can be used to provide information and services of the departments and agencies of State and Central

governments to the common man, through easy access to a chain of computerized Integrated Citizen Service Centers (ICSC) operating 24X7, electronic kiosks and the Web. The B1 setup consists of various citizen centers connected with a common B1 Data Center using 128 kbps leased line and a 128 kbps backup ISDN line. The B1 data center houses the database server, the application server and the integration server. The integration server talks to the department-

ments on behalf of B1 centers. Any service request coming from the service centers for a particular department gets routed through the integration server to the respective department's data center. The B1 data center is connected with the department using dedicated leased lines backed up by ISDN lines. The capacity of the leased lines varies from 2 Mbps to 128 kbps depending upon the traffic requirement. The B1 Data Center also acts as an internet gateway for

the B1 web portal. The Internet pipe is totally encrypted using SSL for greater security. For data security, B1 has a disaster recovery site available. This site is geographically dislocated and has a log shipping working between its database and B1 Data Centre database.

Government of Kerala
Kerala - KISSAN

T he Karshaka Information Systems Services and Networking (KISSAN-Kerala) project was developed, implemented, and managed by the Indian Institute of Information Technology and Man

Dr KR Srivathsan, Director, IIITM-K

agement- Kerala (IIITM-K) based upon the recommendations of the State High-Level committee on IT and BT in Agriculture. It is an integrated and multi-model agricultural information system for Kerala. The project has several features that put the potential and power of ICT to effective use in agriculture related knowledge empowerment and extension activities.

The main aim of this project is to empower the farmer with news

and information regarding government schemes, assistance from other related agencies, research findings of practical relevance, etc.

This would enable them to take advantage of the various development programs initiated by various agencies in the farming sector in an integrated manner. The web applications are developed using MVC architecture. The frontend applications were developed using JSP, Java Servlets and Beans in the middle tier, and Oracle/My SQL as the backend. The server platforms are on Linux and the development environment is on Windows.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Government

Government of Punjab
VAT Information System

The Excise and Taxation Department, Punjab, wanted to reform and modernize the tax administration to improve operational efficiency and bring transparency into the system. To achieve

this, a project called Computerization of Sales Tax Information System Project (COSTISP) was started, and was later upgraded to COVIS (Computerization of VAT information System). It captures information at the source through 19 identified online modules, which cover the entire range of VAT procedures. All the offices of the department are linked through leased-lines and V-SAT to a central RISC Server at Patiala. All 825 users at 92 locations access this

central server, which is capable of handling 600 concurrent users. This capacity can be enhanced to 1000 users. After the implementation of COVIS, the interface between taxpayers and officials has reduced. Taxpayers now only have to deal with a front-end of administration for submitting their requests and applications and giving status of their pending issues. This has resulted in significantly reduced discretion of officials when dealing with taxpayers. Now only

those tax-payers are called to the office whose returns, etc, are found to be faulty or lacking in compliance. The audit module in COVIS can isolate tax-payers who might forge their tax returns.

Project Specs

Business problem
The process of tax administration was lengthy and complex
IT solution
An ERP solution was implemented to bring in transparency and modernize the tax administration of Punjab
Impact
Increased operational efficiency
IT Implementation partner
ETTSA
Project Head
HMS Rosha, CEO, ETTSA

ISRO
Trans-e Portal

ISRO has been involved in the design and development of space-borne systems to be used in the areas of communication, telemedicine, education and other societal applications. Their headquarters

K. Parthasarthy, Sci/Engr SG, INSES, ISRO HQ

is involved in coordinating various projects such as PSLV, GSLV and Chandrayan. However, knowledge is often scattered across different ISRO offices, and there was a need to collate and archive it for the benefit of engineers working on different space research projects. This portal facilitates a comprehensive range of functionalities, including single point-of-access to relevant information, community interest building and collaboration. The

Project Specs

Business problem
Information is scattered across different ISRO offices and hence, could not be shared easily by engineers
IT solution
An information portal that facilitates sharing of news, documents and exchange of mail
Impact
Sharing of space-related news across the globe has become easier
IT Implementation partner
TeN Systems

document management system facilitates the organization, index-

ing, classification of documents, content and digital assets. Collaborative technology facilitates workplace collaboration and the creation of communities of interest/best practices. These technologies enable virtual workspace and workrooms. The portal consists of a mail client, document manager, search, alert, workflow and group collaboration components. It is based on the MySQL database, Java and XML, JSP, TomCat server and Linux OS.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Government

Industrial Guidance Bureau
e-Platform

This workflow and document management software provides a single window clearance platform to the Industrial Guidance Bureau of the Government of Pondicherry.

The bureau receives hundreds of applications every month, seeking industrial clearance or permission for setting up new industrial units. A total of 21 government departments and public bodies, including Municipalities/Commune Panchayats are involved in this decision making process. Sometimes, it would take a year or more for an applicant to get any feedback on his application. The workflow was not well managed, and it was all being handled manually. But with the e-platform coming into use, the Bureau is now able to address any

Gopala Krishnan Devanathan, Co-Founder and CEO, LL2B.COM

Project Specs

Business problem: To keep track of applications-in-process was a big problem.

IT solution: Provides a web-based interface to register an application, as soon as it arrives and keeps track of it until it's cleared.

Impact: Applicants are able to track their applications at any point in time.

Implementation partner: LL2B.COM

application in the prescribed one month's time. The most important value it has offered to the end-beneficiary is that he can, at any point in time, know the status of his application. Officials of different departments can seek clarifications, enter comments or simply feed their approvals or recommendations directly to the system, making the same visible to other authorities. The platform has been developed using Open Source tools.

President's Secretariat
RB e-Governance

This is an e-Governance system implemented at President's Secretariat for G2G, G2C domain. This president's e-Governance Portal can interface with any e-Governance system across the State and Central Government Ministries and Departments. The e-Governance system includes RB e-Governance portal, President's Knowledge portal , Multimedia Tele-conference , Tele-medicine and Digital Library.

The President's Knowledge portal has a knowledge repository providing access to citizens through G2C applications such as Grievances redressal system. Also the Photo's taken with the President will be available for public on portal. The president has to inter-

act with a lot of people on daily basis and attend various conferences, seminars etc. To east this process a multimedia studio, data centre, a universal tele-conferencing system has been setup. The Setup is deployed with use of EDUSAT, INSAT3E, 64 mbps fibre connectivity and Wi-MAX connectivity. A Tele-Medicine system has also been setup between President's Estate Clinic and CARE Hospital. Till now 2 medical camps has been conducted and medical records of President' Estate pa-

Project Specs

Business problem: Providing Net presence to the president's office

IT solution: Implementation of a central portal for the President of India with which he can communicate with any Indian government website

Impact: The President can access anygovernment portal or any related information from one single interface

Implementation partner: IBM, Novell

Project head: V. Ponraj, Director (Technology Interface), President's Secretariat

tients has been digitized. As part of the project 14000 books of the Rashtrapati Bhavan Library has been digitized. The non-classified books which are out of copyright will be made available to the people through internet through the knowledge portal soon.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Healthcare/IT-ITES

Tuberculosis Research Center, Chennai
AdvanTrial

This software application facilitates clinical trials that test the efficacy of new drugs/treatments for TB-HIV. As a large amount of data is captured and analyzed, TRC wanted to move from a paper-based data collection and analysis system to a fully computerized one, which would enable them to manage larger sample populations of patients and enhance the efficiency of the staff managing these trials across multiple sites.

The capture of patients records began by their filling 73 CRFs (Case Report Forms), which were processed through different phases of automated workflow, namely an Assessment Phase, Intensive Phase, Monthly Phase, Continuation Phase and DOTS/Non-DOTS Phase. Additional supportive functions of the application are Alerts, Reminders, Queries, and an internal Mail Box. This application automates registration, enrolment, consultation, laboratory tests, patient case dockets (electronic case history), task scheduling/lists, and all other features related to clinical trial protocols, besides providing dashboards, reporting and data export to SAS. The application uses .NET Framework 2.0, C#.NET and ASP.NET, with SQL Server 2000 as the database.

Project Specs

Business problem: TRC needed a computerized system to manage larger sample populations of patients

IT solutions: Entire process of clinical trials automated and sped up

Impact: Increased efficiency, guaranteed security of patient data. Generation of reports from trial results now possible

Implementation partner: Covansys India

Project Head: Ramesh Subramaniam, Practice Lead, Covansys India

Aztecsoft
Replicating VLAN over WAN

The company wanted to ensure access to all network resources to its employees across nine locations. Being a product engineering specialist, they need to provide solutions to customers in the shortest possible time. So employees needed remote access without complexity and without compromising on security. Another requirement was platform- independent remote network support with centralized management. So, the company decided to replicate VLAN across the WAN. This would cause least impact due to the relocation of key personnel, and contribute towards combating the high attrition rate. It was also decided to have DR in the least turnaround time. For this, a fiber-based SDH backbone with self healing ring was extended across all locations to establish intra-office connectivity using EoSDH Services and Layer 2 MPLS-VPLS with Ethernet hand off on last miles. This reduced the CPE costs and shortened project life cycles. Bandwidth can be upgraded on the fly without changing the interface. The VLANs were replicated across all locations using Q-in-Q trunking. Redundancy was taken care of and they can now provide a max bandwidth of upto 6 Mbps across various offices.

Nataraj N, CIO, Aztecsoft

Project Specs

Business problem: Ensuring the sharing of LAN across all locations, and improving bandwidth

IT solution: VLAN was replicated across all branches

Impact: Achieved 99.9999% uptime after this deployment from 95% previously

Implementation partner : Bharti

Cisco
TelePresence Meeting Soln

TelePresence is a high-end, room-based, video conferencing solution built to operate seamlessly with Cisco's VoIP architecture and products. The system includes three different models of

Vinayak Hungund, Director IS

TelePresence Endpoints and the TelePresence Information Management Solution, varying from a 2-on-2 to a 6-on-6 solution. For a 2-on-2 solution you need a High Definition video (720p30, 720p60, and 1080p30) displayed on custom 65 inch flat panel Plasma display with one HDMI interface and optimized latency. The total bandwidth required depends on the number of screens used. Each screen consumes upto 5 Mbps. It

Project Specs

Business problem
A lot of time and money was wasted in employee travel
IT solution
A high-end video conferencing solution that provides life-like experience
Impact
Travel budgets down by 20%. Majority of the costs savings are through internal collaboration and more frequent interactions with clients
IT Implementation partner
In-house

uses a single high definition codec and camera, combined with one

microphone and one loudspeaker that is similar to conventional video conferencing systems designed today (every system also includes an additional speaker for audio only add-on participants and Cisco 7970 series telephone). This entire setup can be scaled up to a 6-on-6 solution using three such units. The image of the participants is life-size. and people appear on the screen in the same size that they would appear in person.

Reliance World
Online VDO Résumé Solution

Choosing the right candidate for the right job is a challenge for the HR department. In order to ease the process of scrutinizing résumés, Reliance World has brought out this project, developed by

ILAZA VDO. This gives you an interactive way of scrutinizing résumés online. VDO Résumé provides a combination of the traditional résumé and a video profile of the candidate in an integrated view. This offers the employer a platform for faster and more accurate short-listing of applicants to their job. It replaces the requirement of the first interview and the short-listed candidates can move directly to the second round. It

also offers a customizable template to grade the candidate while reviewing the VDO Résumé. These scores can later be used by the company as a filter. The project offers an integrated view of text (MS Word/PDF) and Video Résumé on the same page. It also facilitates easy evaluation of soft skills such as presentation, communication abilities, diction, and accent. The entire system aims to streamline the search process, es-

Project Specs

Business problem:
Scrutinizing and short-listing résumés was a time-consuming HR process.
IT solution
Deployed a solution that minimizes the time taken in the short-listing process.
Impact
Clients can now streamline the search process, especially for hiring fresh talent who have little besides an educational qualification.
IT Implementation partner
ILAZA VDO
Project Head
Nitin Chowdhary,
Founder & CEO, ILAZA VDO

pecially for hiring fresh talent who has little besides an educational qualification on their résumé.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

IT/ITES

Ness Technologies
Ness-e-City

The company works for multiple clients located abroad, and for each client, there is a separate Intranet. Most projects run over several years. Now this creates a scenario where each employee

Sudhir Saran Singh, VP - HR

is confined to working for his/her client, and there is very little horizontal interaction amongst employees. The project plans to check this through an Intranet portal that would enable them to share and collaborate internal information from the corporate level, and access workflow applications hosted for employee use. The various departments within the company would be able to automate business processes, delegate and monitor tasks, and host

Project Specs

Business problem
 Lack of interaction amongst employees

IT solution
Intranet portal for information sharing and workflow automation

Impact
Expected to increase employee engagement and knowledge sharing

IT Implementation partner
iVista Technologies

personalized employee profiles. The portal is built on a 3-tier architecture using Microsoft technologies. The Web Server is MS IIS, the Application Server is MS .NET and the DB Server is MS-SQL Server. The other facilities on the portal include opinion polls, information updates of changes within the organization, tracking of all employee requests, centralized repository of employee data like Profiles, Leaves, Travel, Ticketing System, Reimbursement and Procurement Approval, and hosting of paperless e-forms.

Trigent Software
Windows to Linux Migration

The project was conceptualized to reduce the CAL and server licensing costs and high maintenance and administration effort required on Windows. On migrating the FTP server from

Project Specs

Business problem
High maintenance and administration costs of Windows-based servers
IT solution
Used free, Open Source software
Impact
Savings in hardware, maintenance, and external consultancy costs
IT Implementation partner
In-house
Project Head
Srinivas Uppuluri, System Admin

Windows to Linux, the company was able to provide high availability of FTP services both internally and to clients. Similarly, migrating the DHCP Server from Windows to Linux enabled the organization to eliminate the CAL and server licensing of Windows 2000 Server. Migrating VSS (Visual Source Safe) from Windows to Linux CVS allowed the organization to do away with the CAL and server licensing for non-Microsoft technologies such as Java and PHP.

The company also realized that some users of Microsoft Office 2000 and 2003 did not require the capabilities of Microsoft Exchange. These users were moved to Novell Open Office, which was very stable, and their mail clients were also moved from Microsoft Outlook to Mozilla Thunderbird or Outlook Express as per their needs. Trigent's DHCP server was initially on Windows 2000 Server, where even after configuring the Pool and Scope, IP conflicts oc-

curred regularly on the network and the MAC to IP binding did not work in some cases. The DHCP server was migrated to Fedora Core 5, after which the company was able to reserve all IPs and MACs as they could on Windows.

UGS Software
Infrastructure Virtualization

U GS Software is a software development company. The key challenge for its IT team was to provide redundancy to certain infrastructure components such as the Web server, Print server,

Manoj Mishra, Manager IT

NIS/Authentication server, and Source Code management and License management servers.

However, buying hardware to create failover servers for all these services required a huge investment. The company, therefore, consolidated all the fail-safe servers in one Dell Power Edge 1950 Server with dual 2.0 GHz CPUs and 4 GB of RAM.

They installed VMWare Server on this Dell server and created five instances of virtual machines

Project Specs

Business problem
To create fail safe servers for some of the crucial services running in the organization.
IT solution
Virtualized and consolidated all the fail safe servers in one Dell Power Edge server.
Impact
The downtime has been reduced to minutes from hours.
Implementation partner
In-house

to host the above-mentioned services in each of the virtual

instances. The data for all the servers, including the actual physical servers and the virtual servers, are drawn from a centralized storage.

The failover is still done manually. For instance, if any of the Web servers fail, the DNS and IP settings are configured manually in the virtual machine.

And then only the virtual machine is started. The company plans to automate this process very soon.

TACO MobiApps Telematics
MS Dynamics NAV

T ACO MobiApps Telematics Limited (TMT) is a joint venture between TATA AutoComp Systems Limited and MobiApps Holdings Pte Limited, Singapore. This company provides end-to-end

vehicle tracking and fleet management with GPS devices. It has over 200 customers and an installation base of 6,000 units. To streamline the business processes, the company decided to deploy Microsoft's Dynamic NAV 4.0. The first implementation was done at their head office in Pune in December 2006, as a result of which the company improved its business performance by 25 percent. It also established better accounting processes, faster management of

Information Services (MIS), report generation and better inventory control. This also boosted the employees' performance by 40 percent. After implementing Dynamics NAV, TACO personnel are now able to import service data from third-party solutions and generate invoices from the imported data. The solution calculates the Web usage and SIM card usage in the GPS devices. It also checks the applicable plan for the customer and generates the bill accordingly.

Project Specs

Business problem
Lack of proper integration of processes.
IT solution
Deployment of MS Dynamics NAV.
Impact
Business performance improved by 25 percent.
IT Implementation partner
PricewaterhouseCoopers.
Project Head
Narayana Saralaya,
Associate - Finance

As a result, the company cut down the time taken in generating a service billing invoice from ten days to two days.

ACG Worldwide
SANKALP

ACG worldwide is primarily a pharma company, but it also has engineering units that manufacture the equipment for making medicine capsules. This project was an ERP implementation for their engineering business. The organization was facing a lot of challenges in inventory optimization, SCM, delivery compliance, customer service & support, product innovation, and market penetration.

The company needed a robust system to manage so many processes. The earlier system that the organization had wass not able to handle this requirement.

So, ACG Worldwide implemented an integrated ERP solution that would enable them to standardize processes between all the engineering companies.

The solution used was SAP, along with HP Itanium servers and Oracle database.

This enabled them to manage all the processes in a more organized manner and to plan things better. Decision makers can now track and trace the development.

Project Specs

Business problem: No solution that could help standardize all processes between all engineering companies

IT solution: Implemented SAP ERP

Impact: Common platform for all processes to the engineering company, reduced total manpower to monitor specific processes

Implementation partner: OBT Global

Project head: N K Desai, Vice President-Corp Commercial

Every stage of a specific process can be monitored. This project helped them to automate their business at a low cost.

Aditya Birla Group
Gyanodaya Virtual Campus

The project was conceptualized for the Aditya Birla Group, which has 60 manufacturing locations in India and abroad (Thailand, Malaysia, Philippines, Egypt, Canada, Australia, Indonesia and China), by 24X7 Learning. The Group felt the need to build a high quality employee base for the success and training needs of the organization. To achieve this, they required: global capabilities and competencies; speed of learning; learning to reach remote pockets; and focus on building a managerial base. The project caters to about 10,000 users (managers). For this, 26 servers have been installed globally, and the e-Learning solution has been 90% completed. To manage high volumes, infrastructure related issues, penetration, network connectivity and speed, a distributed architecture is deployed where the database is centralized, and content and LMS Servers are distributed. With decentralized database, there should be connectivity between various locations and the main server. To overcome this, the architecture was completely decentralized and the data is

Project Specs

Business problem: Difficulty in providing e-Learning courseware across multiple locations

IT solution: Implemented a distributed architecture resembling a virtual campus

Impact: Connectivity speed has increased, large networks can be managed easily

Implementation partner: 24X7 Learning
Project head: Ganesh Durupudi, General Manager, 24x7 Learning

replicated once per day for centralized administration. The entire architecture is based on Windows 2000 Server, IIS 5.1 Web server, SQL Server 2000 with Replication.

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Manufacturing

AIMIL
CRM Implementation

On top of Dynamics NAV, AIMIL has now implemented Microsoft Dynamics CRM 3.0, to further streamline its internal business processes. The company is now able to recognize and develop new selling opportunities and even simplify the marketing and sales process. Earlier the company in its Mumbai and Baroda branch offices, was using an in-house CRM application based on SQL Server 2000. However, it had limited ability to capture data and lacked integration with the ERP application. All sales, service and marketing data was fragmented.

The implementation was done at the New Delhi head office and six of the branch offices. It took only 22 man days. The primary requirement was to integrate the CRM with the existing ERP. The integration was made possible by developing a customized application in MS .NET. Some added functionalities were also required, such as custom printing of quotes and orders along with its line items. This was done by a custom-built application.

For the service module, only the specified data, required by the service team, was included from the Dynamics NAV database.

Project Specs

Business problem: Need to integrate business information within pre-sales, sales, service and marketing departments

IT solution: A CRM tightly integrated with the existing ERP solution

Impact: Better competitive analysis, improved customer relationships

Implementation partner: EuroInfo Systems

Project Head: Sudhir Bhargava, IT Head, AMIL

Management can now access competitive data analysis on a single platform. This critical functionalityenables them to respond effectively and within time constraints.

Apollo Tyres
PACE

In Apollo Tyres appraisals were done on paper. As it was an annual review of performance, employees occasionally did not remember their achievements at the start of the year. Apollo tyres implemented an e-appraisal system, to bring in transparency and quicken the process of appraisals. In PACE, first corporate goals are created, and based on these corporate goals, all business units create their goals. Based on these goals, employees create their KRAs, which are linked to the business unit goals. Another interesting thing is that an employee can see his boss' KRAs, so that he can effectively link his KRAs with his boss' KRAs. This process ensures that the whole organization is heading towards to achieve corporate goals. As the performance parameters are defined in advance, employees know how their performance will be measured. Every six months there is a review of targets, and every quarter there is a review of KRAs, based on which bonuses are paid.

The process starts with the self-evaluation of the employee. Then it goes upto two levels, before which there is a one-to-one discussion between the employee and his boss.

All in all, the PACE system improves transparency between HR and employees and employees will be aware how they will be measured.

Project Specs

Business problem: Evaluating employees strictly according to the targets achieved by them

IT solution: An E- Appraisal system was implemented

Impact: Transparency between HR and employees. Employees know in advance how they will be measured

Implementation partner: Nexstep Technologies

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Manufacturing

Bharat Fritz Werner (BFW)
Mail Scanner

S.L. Murali Asstt. Engineer - IT Cell

The company faced the issue of a large amount of spam and viruses that hogged costly bandwidth. Therefore, the in-house IT team developed and implemented an Open Source solution for reducing spam and viruses, MailScanner. The solution provides the engine used to scan incoming email and detect security attacks, viruses and spam. Email is accepted and delivered to an incoming queue directory. Mail Scanner processes the waiting messages and then delivers the cleaned messages to the outgoing queue directory, where they are picked up and delivered normally. Only after the messages are delivered to the outgoing queue directory are they deleted from the incoming spool directory. This ensures that no mail is lost, even in the event of unexpected power loss, as the system always has a copy of all messages. MailScanner can be configured to use one or more of 26 commercial or Open Source virus scanners. The application examines the file name and file types of all email attachments against site configurable rule sets. Virtually any type or name of attachments can be blocked or passed, based on how MailScanner has been configured.

Project Specs

Business problem
Increase in the number of spam and viruses that hogged costly bandwidth.

IT solution
An Open Source mail scanning application was developed.

Impact
The ratio of genuine mail to spam has been improved to 99:1.

IT Implementation partner
In-house

Flat Products Equipments
Safal

Carasel Dsouza, CIO

Safal is an ERP project implemented by Flat Products Equipments Ltd. It is an implementation of SAP using all the SAP modules, such as MM, PP, SD, QM, FI, SO, including the project system and HR modules. The project is fully commissioned and maintained by the in-house IT team of five members. Safal went live in a span of six months.

In this period, the IT team also trained 150 users in the company. The ERP system was deployed in the company because the legacy system was not able to handle problems such as tracking the costs of a project.

There was no integrated system for the entire company. Therefore, progress of the company's various projects was not known, as at any given time, at least 25 projects were being executed. Keeping track of procurement activities was also difficult.

To solve these issues, MySAP ERP 2004 was installed in the head office and connectivity was provided to all the four factories with leased lines. To maximize the returns of investments on leased lines, the same lines were also used for VoIP across the branches, which reduced telephony costs for the company.

Project Specs

Business problem
Absence of an integrated system leads to re-procurement of raw materials and lack of project management.

IT solution
MySAP 2004

Impact
The company achieved 628 % growth after the implementation of the ERP system.

IT Implementation partner
In-house

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Manufacturing

Forgewell Ltd
Streamlining of Processes

The company manufactures drop-forged, ring rolling and upsetter parts, and wanted to optimize in-house business productivity by streamlining information across various departments.

MS Dynamics NAV 4.0 was used to integrate the sales, accounts and purchase departments, among others. The implementation began in June 2006 and was completed within three months. They implemented the financial management, purchases and payables, inventory and sales and receivables modules of the product. The implementation has eliminated manual record creation and management. An example would be the automation of excise registers. This not only saves time but also reduces errors. The employees can check the online status of customers, vendors and stockists for outstanding balances, and see a break up by currency. They can trace documents such as invoices, payments and credit memos that have been issued to a customer. Prior to implementing this solution, for more than one item the company used to create as many sales invoices. Using Dynamics NAV they can ship multiple items on a single order and a single invoice. Moreover, with the implementation of the sales and purchase analysis report facility, they can create customized reports. Overall, the solution has improved productivity by 45 percent, by creating a bridge amongst various departments.

Project Specs

Business problem: The legacy solution did not integrate departments and processes. Data analysis and access to business information was a pain
IT solutions: They implemented MS Dynamics 4.0 to integrate departments and processes
Impact: Productivity has improved by 45 percent and employees can access information in a breeze
IT Implementation partner: Munjal eSystems
Project head: Shyam Khandelwal, Director, Forgewell

GHCL
SAP Implementation

GHCL has business in various industrial verticals across the globe. Once they began expanding their business into industrial chemicals, home textiles, retail and BPO, a need was felt for an ERP so lution to automate all operational processes. Within six months, they implemented SAP ECC 6.0. This enabled them to monitor, plan and schedule each stage of production, and implement a homogeneous platform across all business verticals. The application covers all important business processes like sales and distribution, materials management, production planning, quality management, finance and costing. Previously, it was hard to keep track of the work in progress against sales orders, at various production stages like weaving, processing, cut and sew, packaging and shipment. This has now been effectively resolved. GHCL used IBM servers with AIX Unix OS for production, testing and development. Their corporate office is connected to the registered office through a 1 Mbps optical fiber WLAN. Various other locations across India are also connected to each other using same LAN. The main benefit of this project is that decision makers are now able to track the work in progress and take much better decisions regarding sales orders, etc. The implementation provides support to decision makers across all levels.

Project Specs

Business problem: Keeping track of work in progress, with newer verticals coming into the picture, and automating operations.
IT solutions: SAP ECC 6.0 solved the critical business tracking problem and automated all processed business.
Impact: Enabled them to keep better track of all production activities, and resulted in better sales plan and profit margins.
IT Implementation partner: OBT Global
Project head: Chandan Sinha, CIO, GHCL

BEST IT IMPLEMENTATIONS OF THE YEAR 2007

Manufacturing

Henkel and CAC
E-Business application

Henkel and CAC don't follow a supply chain in the form of distributors and resellers. Rather, they sell products through agents. There are currently eight such agents across India, who are

the points of interaction with the customers and who get orders for the company. These orders are forwarded to the HO for a stock transfer of products. When the stock transfer happens, the bill is generated directly from Henkel's HO and there is no involvement of the agent in the bill generation process.

To make this process work, the company needed a website to enable the HO to monitor the status of all the agents in real time; at the same time, the company wanted to make the product delivery process as smooth as possible for customers. The system was developed as an additional module of their existing ERP system, which again made sure that all the data generated or required by the agents were directly pushed or pulled from the central server without any user intervention. This has also removed the laborious and time-consuming activity of data duplication on the ERP sys-

tem. Since all the users operate on the same platform, the data/transaction is entered only once and is available throughout the system for further usage.

Project Specs

Business problem: Connecting all the agents across the country from the pre-existing ERP system

IT solution: An e-commerce portal is made available to all the agents to connect centrally with the ERP system

Impact: No redundant data entry ensures consistency and saves time

Implementation partner: Ramco Systems

Project head: Dr Ravi Talwar, Managing Director, Henkel CAC Pvt Ltd

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Kores
URJA

Many of us know of Kores as the manufacturer of stationery items for offices like punching machines, carbon paper and colors. But Kores goes far beyond that. They are into 12 different

lines of business. Each of these businesses was running in islands isolated from each other. Sales depots, head office and divisional offices were not connected to each other. Consolidation of data was a major problem. Kores wanted an application that would bring in standardization across all units, branches and business lines, and all offices would be integrated with each other and connected to the head office.

They used MySAP 4.1 ERP, Or-

Project Specs

Business problem: Processes were neither standardized nor integrated.

IT solution: Kores India decided to go fro a full-fledged SAP implementation for efficient material management, from production to post delivery.

Impact: Standardized processes; reduction in report generation time from 20 days to 1-2 days.
-
Implementation partners: SAP India, CVS IT and Cisco

V K Marathe–IT Head, Kores India

acle as the database and HPUX as the OS.

This deployment has helped reduce inventory as it has now become easy to find out stock positions. Better production planning is now possible now, and there is better control on sales schemes and discounts.

Monnet Ispat
ERP Implementation

With the implementation of Microsoft Dynamics NAV 4.0, Monnet Ispat has streamlined its business processes and enhanced organizational productivity. The application was implemented at its New Delhi head office, and across four manufacturing facilities at Raipur. The ERP is now handling the inflow and outflow of inventory, as well as costs. The solution has ensured a single database at the New Delhi head office and the Raipur manufacturing facility.

The company implemented the modules for finance, sales and dispatch, purchase, inventory, gate, weighbridge, quality and indent. Weighbridge readings are weighing records of the inward/outward movement of materials in trucks. The weight of the truck shown by the machine is automatically picked up by the system without any manual entry, eliminating errors or manual manipulation.

All purchases are based on the indent system. The company files the request with the purchase department with the prior approval of the head of the department. Both in and out gate entries are linked to the indent. There is a provision for gate entry against multiple POs. The module was customized so that a gate entry could be made against multiple POs. The flow of information of business processes at multiple locations is now accurately assimilated and analyzed for superior control and better, informed business decisions.

Project Specs

Business problem: Threat to data security, lack of coordination among various departments and manipulation of reports
IT solution: Enhanced data sharing in a secure manner
Impact: Access to real-time information and faster report generation with inter-department coordination are now possible
Implementation partner: Munjal eSystems
Project head: Sunil Mittal, Vice President, Monnet Ispat Limited

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Moser Baer
QC Line Integration

Project QC Line Integration is developed and implemented by Moser Baer India Ltd in-house. The project is aimed at consolidating the testing process and reducing the manpower involved in testing the CDs. In their earlier process, every production line had one person who was responsible for producing CDs. Once the CDs were out from the manufacturing line, each lot was sent to the testing module, where a team of seven to eight people used a collection of devices to test the CDs.

In the new system, a basic testing module has been installed on each manufacturing line. This is connected to the testing devices with the help of an interface that has been developed in-house. The interface collects the data from the testing devices, processes it in real time, and informs the person on the production line whether the lot produced was good or bad. If the lot is bad, it is routed to the testing module for doing non-routine tests, so that they can segregate the CDs as D-grade or scrap. If the lot passes the routine test in the production line itself, it is directly moved for packing. This has reduced the manpower in the testing module from seven to two people. Moreover, all the production line testing is connected and the testing data is saved in a central server, for generating reports for senior managers. The testing unit in-charge also keeps an eye on all the production lines in the unit and analyzes the data to check which production lines produce the maximum bad CDs, and therefore, need maintenance.

Project Specs

Business problem: CD quality parameters were recorded manually
IT solution: Centralized database for recording quality parameters
Impact: Reduced manpower and increased productivity
Implementation partner: In-house
Project head: Mahabir Bansal, DGM-IT, Moser Baer India

BEST IT IMPLEMENTATION OF THE YEAR 2007

Manufacturing

N R Agarwal Industries
Papyrus Revolution

Anil Singh, CIO

With expansion plans on the horizon, controlling enterprise-wide operations for N R Agarwal Industries became increasingly challenging. The organization lacked a single integrated information system. Also, with multiple data input points and lack of structured master data, the top management was not able to take informed and timely decisions. Suppliers, too, were unable to analyze the status of their orders. The company, therefore, needed to streamline and integrate sales management, production management, materials management, distribution, and financial/costing management. They went for implementing mySAP ERP. Post this implementa-

Project Specs

Business problem: No single integrated app that controlled enterprise-wide operations in terms of maintaining inventory, SCM, sale purchase, report generation, production planning, and materials mgmt

IT solution: The company went for SAP implementation

Impact: Turnover increased by 20% and inventory reduced by 5%

Implementation partner: Aakit Technologies

tion, there is a single information system that provides real time and accurate information, enabling accurate and informed decision taking. Sales realization has come down by 4-5 days. All end-to-end business processes have been streamlined. Turnover has increased by 20%. There is a reduction of 5% in overall inventory. Also, with complete information on order processing and credit control, the collection has increased by reducing the overdue from Rs 22 crore to Rs 10 crore.

Nagarjuna Fertilisers & Chemicals
nCircle

Nair Prasad, Manager-IT

This is a field force automation project that made great use of SMS. Here, the company integrated mobile technology with their back-end ERP application so that a live link can be established between far-flung regional sales teams and the HO. Earlier the sales order generation by a front-end sales person and goods delivery by the warehouse agent was being handled manually. Copies of manual records would be sent by courier to the nearest regional office for entering into the SAP system. Invoices would then be generated at the regional offices. This entire process, from placing a sales order to billing generation, would take 3-4 days. Now, the com-

Project Specs

Business problem: Collecting orders from farmers and sending them to HO for further processing took 3 to 4 days

IT solution: Using a PDA which runs an order processing app and then lets the sales agents take orders and send it instantly to the HO

Impact: Reduced the time of processing a sales order and billing

Implementation partner : Mobien Technologies

pany has started using the mobile application, which runs on a PDA and uses GSM technology to send data through SMS to the HO. A sales person can immediately take down the orders from farmers and then feed the data into the application on his PDA. The application instantly sends the purchase order to the head office via SMS, if GSM connectivity is available, or stores it till connectivity is obtained. The project has saved time in purchase order generation, which has further speeded up the delivery of products to the end-customer.
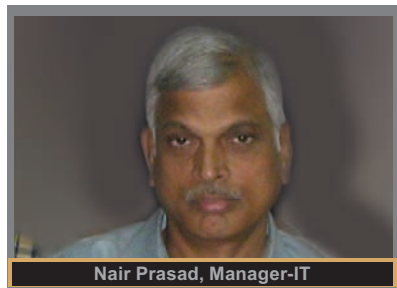
BEST IT IMPLEMENTATIONS

Company/Project	Location	Implemented by	Description	Project Head
Govt of Andhra Pradesh/E-Justice	Mahabub-nagar, AP	CGG, Hyderabad	Excellent ICT initiative to help rural women in the legal processes and give timely advice	Vijay Karan Reddy, Sr Programme Manager
Govt of Andhra Pradesh, Dept of Technical Education/ Decentralised Online Counselling	Andhra Pradesh	Osmania University	Streamlining admission process to professional Colleges with great convenience to all stakeholders	Vishwanatha Reddy, Development Officer
Govt of Andhra Pradesh, Irrigation Dept/Reservior Status Information System	Hyderabad	Centre for Good Governance	Innovative use of mobile technology where reservoir levels are updated by field engineers by sending SMS. Reports are also sent to the decision makers through SMS	Dr Rajiv Sharma, Director General
Govt of Rajasthan/ Ranthambor Wildlife Safari	Jaipur	Data Infosys	Becuase of this project Ranthambor Wildlife Safari is available worldwide	Dr Ajay Data, CEO
Govt of Sikkim/ Online Pay and Accounts System	Gangtok	NIC	A mission critical project, implemented single handedly in a complex environment and biz processes with diversified users	Sougata Subhra Bagchi, Scientist-C
Govt of Tamil Nadu/ Departmental Website	Tamil Nadu	NIC	The site has simple, uncomplicated user interface and enriched information content without unnecessary distractions	Qudsia Gandhi, IAS, Special Commissioner & Commissioner
Govt of Tamil Nadu/ Video Conferencing of Pensioners	Tamil Nadu	NIC	Leverages technology and brings benefits to senior citizens and pensioners	Qudsia Gandhi, IAS, Special Commissioner & Commissioner
Govt of UP/BhuLekh	UP	NIC	ISO certified solution implemented in 305 tehsils, connected through datacenter for online RoR. Handles RoR, Mutation, Order. It is a self-sustaining model, with legal framework	Neera Yadav, IAS, Chair person
Govt of UP/ E-Patravali	Lucknow Secretariat	NIC	A web-based integrated file tracking system, successful in secretariat. Supports BarCode. tracks pendency, section-wise movement, introducing paperless office secretariat governance process	Zohra Chatterjee, IAS, Principal Secy, IT Dept
Govt of UP/Koshvani	Lucknow	NIC	A one-stop e-transaction gateway for treasury bills and tax receipts. Unique SOA-based solution connecting treasuries through OFC validating Budget-allotment online	Manjeet Singh, IAS, Principal Secretary, Finance Dept
Gujarat Urja Vikas Nigam/E-urja	Baroda	Tata Consultancy Services	First of its kind in utility sector to cover generation, transmission and distribution business mapping in an integrated application	M K Iyer, Sr CGM
Hathway Cable & Datacom Pvt Ltd./ Oracle E-Business Suite implementation	NA	NA	Implemented Oracle E-Business Suite 11i.10 to enhance customer service and lower operating costs	Rajesh S Bird, Head Systems
HCL Technologies /EnsureIT	Noida	Inhouse	This project supports IT and infrastructure for highly demanding 24x7x365 production for clients located across geographies	P V Ramadas, VP-Technology
HDFC Bank Enterprise Mgmt System	Mumbai	Wipro Infotech/CA	It helps the bank ensure that the infrastructure is always available and performing to support business.	Ram Sambasivan, VP Datacenter Ops

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Company/Project	Location	Implemented by	Description	Project Head
HDFC Bank/ Enterprise-wide Deployment of Active Directory	Pan India	Microsoft/Wipro Infotech	This is one of the largest Active Directory deployments in the Indian Banking Industry in the recent times, which also emcompasses all the branch locations across the country	Harish Shetty, Sr VP-IT
HDFC Bank/Loan Originating System	Mumbai	NSEL	"Reduced the TAT for loan disbursal.Suppliers, DSAs, CPV agencies can access the portal over the Net across the country. Gives more control to detect fradulent customers"	Deepak Mudalgikar, Deputy Vice President
HDFC Bank/Loan Originating System	Mumbai	Nucleus Software	A powerful loan application processing workflow that takes care of end-to-end processing right from sourcing till the disbursement of the file	Deepak Mudalgikar, Deputy VP
HelloSoft India/ Porting VoIP application to Symbian OS for Mobiles	Hyderabad	iAxis	We are the first company in India to have a VoIP application currently working on the WinCE and Linux to be ported to Symbian OS ver 9.1 for Sony Ericsson P990 mobile platform, we have successfully completed the call establishment stage too.	Tanuja Iyer, Project Manager
Himedia Laboratories/ PRANAV	Mumbai	OBT Global, Subsidiary of Zensar Technologies	Successful implmentation with small teams within 6 months. Implemented industry's best practices interfaced with barcoding technology	Saroj Warke, Director IT
Hindustan Times/LiveMint	Delhi	Vishwak Solutions	This is a vital breakthrough that has contributed heavily to the media and publishing house	Sankar Mad-husudhan, Pro-ject Manager
House of Valaya/JJV	Delhi	Headstart	Fashion blends Technology, the output is new season creation. Indian Fashion comes to terms with the technology adaptation to go global and make a fashion statement	T J Valaya, J J Valaya & Syed Abbas Sameer Murgai, Directors
HPCL/Webcasting	across India	CISCO, HCL	The reach is more than 50 locations with number of active devices and telcos like BSNL, Tulip and VSAT provider HECL	M V Sreeram, GM-IT
HPCL/Webcasting	Across India	Cisco, HCL, Inhouse team	Live webcasting of the farewell function of C&MD and address of new C&MD. Time required for it was very short & reach was to be more than 50 locations	M V Sreeram, GM-IT
HPCL/Wirefree	across India	Cisco, Nirmal, Wipro	Implementation of CISCO Access Points at more than 30 locations with more than 200 APs and seamless authentication	M V Sreeram, GM-IT
HSBC Sw Dev India Ltd/MS Navision Implementation	Pune	Ontrack systems Product & Services	This implementation helped gain control over the critical calculations of fixed asset depreciation, and tracking payment and cash cycles	Vishal Jadhav, Assistant mngr finance
Hyundai Motor India/ALC	Chennai	Inhouse	Production efficiency improvement on the production line by bringing in real time monitoring of production and interface with various PLC with IT systems to reduce defect	P V Satish, Senior Manager-IT
ICAI/AntiVirus Installation	Delhi	Cat Computer Services	Installed QuickHeal AntiVirus on more than 200 computers to give ICAI protection from all known/ unknown viruses in real time	Vijay Khandekar, Technical Support Engineer
ICICI Bank/ 2 factor authentication in funds transfer	Data center, Mumbai	Infosys/Inhouse	Enhanced security to customer without any additional infrastructure/logistic requirement for him. It rides on the existing debit card of the customer	Indranil ghosh, Chief Manager

BEST IT IMPLEMENTATIONS

Company/Project	Location	Implemented by	Description	Project Head
ICICI Bank/Dynamic Queue Management	DQM box placed in our branches	1. Intellvisions Systems Ltd 2. Tyche Peripher	Allocates tokens and optimizes customer flows to improve service quality and branch productivity. Implemented in remote branches with VSAT connectivity as well	Ganesh Balasubrama-niam, AGM
ICICI Bank/ E-commodity Based Financing	Mahalaxmi, Mumbai	Puratech	A risk-elimination-cum-margin-monitoring tool built with fraud-mitigation controls, for real-time tracking of exposure, outstanding and collateral of the high-risk rural commodity based business	Sundar V V, DGM
ICICI Bank/ Enterprise Data encryption - Pointsec	Mahalaxmi Data center, Mumbai	Trident Infotech	Protection of sensitive business data on mobile computing devices	Sunil Dhaka, Jt GM
ICICI Bank/ Implementation of Virtual Tape Library	ICICI Datacenter Mumbai	EMC	Addresses the multiple challenges viz managing burgeoning growth of LAN based backups, speeding up LAN based backups, completion of backups within time window available, faster disk to tape copying	Muralidhar Ayyagari, AGM
ICICI Bank/ The Bridge	ICICI Bank's corporate office at Mumbai	SAS	An innovative tech-savvy command center has been built to monitor critical operations of the bank from a central location	Gopalan S, DGM
IDBI/FT-Implementation	Mumbai	IDBI Intech	Replaced two lagacy systems and huge number of Excel files. (ITMS & Kondor+)	C S Ramakrish-nan, Group Head, BSG
iGATE/Security implementation	Bangalore	Inhouse	One of the best security implementation covering six layers of security architecture	Bhavani Shankar, Manager-Security
IGNOU/Sakshat	India	IGNOU	One stop education portal	N K Sinha, JS-Ministry of HRD
Indian Institute of Banking & Finance/Online Examinations	Mumbai	Sify	This is the only online exam of this kind in terms of volume and quality of execution	Ravi Menon, DGM
Indian Railways/ Unification of PRS & UTS Networks	Pan India	CRIS	Besides significant social impact by making ticket -reservation services feasible at almost all stations, technology upgradation and resource consolidation shall lead to lower opex, better IT infrastructure & service mgmt and higher flexibility	Raman Bansal, Chief Systems Manager-Tele-com
Indian Railways/ Unreserved Ticketing System (UTS)	India	CRIS	In addition to improving the revenue stream for Railways, it has redefined the Unreserved Ticketing Process rendering great deal of customer friendliness to the service	Vikram Ajit Chopra, Group GM/PSA
Indian Toners & Developers/ ERSYS	New Delhi	ISOFT	It is a giant project that involves HR purchase, inventory, sales and marketing, production planning, R&D, sores management, and accounting and finance	Sunil Mishra, Project Leader
Infosys/IPM+	Bangalore	Infosys	IPM+ is an innovative, next generation, global service delivery & management platform straddling and scaling beyond 35,000 Infoscions; 2400 projects; >30 offices/delivery locations	Geetha Das, Programme Head-Organiza-tional Excellence
IRCTC/Agents booking	New Delhi	Broadvision	The project has helped in prolifereation of Digital signatures in India	Dr P K Goel, MD

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Company/Project	Location	Implemented by	Description	Project Head
IRCTC/E-ticketing	Delhi	CRIS	This project has made it easier for layman to book tickets from the comfort of home, checking the availability, making payment and taking printouts	not known
Ispat Industries/ Systems Integration (Phase 1) on EAI Framework	Ispat Dolvi Works	Ispat's Enabling Technology & Automation Group	A landmark project ever attempted in metal industry globally.	Atul Kumar, CTO and Sr VP
Jaipur Rugs India/Jaipur Rugs	Jaipur	Headstart	First of its kind in hand knitted and loom industry. The project truly projects the adoption of technology by Indian Mid Market segments to manage business in an organized manner	Chaudhary & Puneet Kapoor, Chairman & Director
Janata Sahkari Bank/Core Banking Solution	Pune	Inhouse	Core Banking Solution implemented with Linux and DB2, first time in India. Got the ISO 27001 Certification	Suni Kamat, Chief Manager-IT
Jayesh Trading/ Barcode enabled billing with inventory & accounts	Porbandar	Online Computer Services	Manages quantity inventory+IMEI inventory, online billing, accounting, etc. Now a distributor can manage his shop single handedly	Yusuf Shivani, Proprietor
JBF Industries/ Implementation of JD Edwards 8.0 ERP	Sarigam (Gujarat)	Cyret Technologies	"Cyret's Well defined processes,system documentation, proper user training resulted in timely go-live & minimal issues.The optimum utilization of resources & technology resulted in achieving better ROI"	Rakesh Gothi, MD
Jila Sahkari Kendirya Bank Maryadit, Man--dsaur/Computerisation of a Co-operative Bank	Mandsaur, MP	Stellar Informatics	Computerizing the cooperative bank will exponentially increase the productivity which is immediately visible	B K John, CEO
JSW Steel/Datahalli	Toranagallu, Bellary District	Inhouse	Brings BPO work to the village level through IT, socially and economically uplifting about 300 village girls	Madhukar Rajagopal, VP-IT
Kale Consultants/ Business Intelligence and MIS	Mumbai	Inhouse	Excellent results achieved at minimum cost and innovative techniques	Sumeet Nadkar, CFO
Kansai Nerolac Paints/SAP APO Implementation	Mumbai	Bristlecone	This SCM implementation is unique as it is using multiple RCCP engines, CTM and optimizer for planning	Rajesh Kalra, Client Partner
Karnataka Bank/ Core banking -Rural	Pan India	Karnataka Bank	Infrastructure challenges are handled using Solar power/VSAT/Mobile SIM	N S Chakkera, G M-IT
Karnataka Bank/ Core banking -Rural	NA	WIPRO	Karnataka Bank, a premier private sector bank, has gone live on Oracle Risk Manager to meet its asset liability management requirements	Dr Meera Arhana
Karnik Consultants Computer Engineers/ Dhool Paatii Old Learning Way	Pune	Inhouse	Opens up the whole world through conputer interactivity to the blind	Dr Ravindranath Ramchandra Karnik, President
Karur Vysya Bank/ Core Banking Implementation	Karur/ Channai	i-flex solutions	A traditional bank with a modern outlook has, taken full advantage of the technology through its dynamic leadership and efficiency in doing a rapid style of rollout and people/process management	J Natarajan/ A Vijaykumar, AGM/DGM
Kerala State Transport Project/ GeoKAMS (Geo-graphical Kerala Accident Mgmt System	Kerala	IBS Software Services	Application facilitates international best-practice standards in road crash data collection, analysis and reporting, the basis for effective road safety	Paul Leslie IPS, IG Police-Kerala

BEST IT IMPLEMENTATIONS

Company/Project	Location	Implemented by	Description	Project Head
LG Balakrishnan & Bros/ROLON2006	Coimbatore	PRICOL	This is an SAP implementation project that has changed every one in the company to follow the rules in all respect & brought discipline	K Viswanathan, Sr Manager-IT
LifeKen/Retail applications	NA	NA	Oracle(R) Retail applications implemented that integrates and centralizes retail operations	M C Kini, CEO Magarpatta
Magarpatta Township Dev & Const/Cybercity Magarpatta	Magarpatta City, Hada-psar, Pune, Maharashtra.	Township Dev. & Const. Co. Ltd.	It is not just another Software Park, it comes with 120 Acre gardens, homes, healthcare, education and recreational facilities within walking distances	Satish Magar, CMD
Mahamedha Group/CBS, Intranet and CCTVs	Ghaziabad /Noida	MK Infosystems	Complete CBS banking systems , Intranet system and CCTV surveillance provided in wireless at six	Manoj Bisht, Director
Manubhai Company /TML Software	Mumbai	Lipee Systems	A unique tracking system for H P document for car car financing that has strong MIS, direct mail, fast search, and other features	Kshitij Patel, Partner
Maruti Udyog/IT Infrastruction set up	NA	Oracle	An innovative and sophisticated Oracle-based IT infrastructure in place to enhance customer satisfaction and employee interactions with in the company	Rajesh Uppal, CGM-IT
Ministry of Agriculture, Govt of India/ Kisan Call Centre	Across India	Telecommunications Consultants India Ltd.	Enabled farmers to get expert advice of professional agriculture experts in their local language by simply dialling a toll free number	Joydeep Sinha, Jt GM-IT Consulting
Ministry of Company Affairs/ Online registration of companies	Delhi	Tata Consultancy Services	After its implementation, 30 days job can be done in just 24 hours	D K Srivastava, Director
Mobera Systems/ IT Implementation at Mobera Systems	Chandigarh	Mobera Systems Pvt. Ltd.	Implemented a creative, innovative, low cost and extremely effective total IT solution that can be a role model for the SME sector	Anupama Arya, Director
Mobera Systems/ Network and Systems	Chandigarh	Mohit Guleria	Effectively running the company on Open-Source and alternative network solutions	Mohit Guleria, IT Admin
MP Govt/State Finance Monitoring System	Madhya Pradesh	CMC	An e-governance project which has been implemented at the grassroot level - the sub treasuries - and is being used by people who did not know what computer is	Manoj Goyal, Commissioner
Nagarjuna Fertilizers & Chemi-cals/Biotracker Scientist	Hyderabad	Ocimum	This helps scientists to capture all the experimental details and saves their time & efforts. They can go back & check what they did in last time & improve the experiments	Davinder Kohli,
Nagarjuna Fertilizers and Chemicals/ InHance	Hyderabad	Intelligroup	The entire project plan down to the actual ROI projections were met in the year of implementation along with the process improvements that were incorporated as an integral part of the redefined vision and strategy	Raj Katari, Head IT
Naval Dockyard Visakhapatnam/ Venom Networks Broadband Services	Visakha-patnam, Andhra Pradesh	Seshkath Ganta	Campus-wide P2P and P2MP projects implemented using the 802.11b/g products; providing fixed broadband access over a range of 6 sq km	Sreekanth Ganta, Proprietor
NBCC/Ebiz-Frame	Delhi	ESS	This HR & Pay module is being customised as per the requirement of any PSU	J S Solanki, Manager Systems

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Company/Project	Location	Implemented by	Description	Project Head
Neotek Consultancy /SMS based Medical Communication	Kolkata	Neotek Consultancy	A unique event-based solution for hospital operations to cut communication time between hospital, doctors, patients and corporate. Helps to shorten delivery time	Vishnu Gupta, CIO
Nuclear Power Coporation of India/Data Center TAPS-3&4	Tarapur, Thane	Insight Business	A huge datacenter project for Rs 6500 Crores that has been completed in less than 5 yrs	R K GARG & O P Goyal, Chief suptd. & Site Director
Oberoi Constr-uctions/Sapling	Mumbai	Aakit Technologies	A successful SAP implementation in the construction industry which has brought all business units on a common platform and gives the management an excellent decision making tool; it is also the first SAP Implementation in the real estate industry	SaumilDaru/ Belmond Victor, CFO/Executive Assistant to CFO
Panasonic/CRM Implementation	Chennai	Manufacturing Logistics Control	Product implementation fo customer relationship management needs	V R Shankar, Designer
Park Hyatt Goa Resort and Spa/ Spa Reservation Software	Goa	Nikunj Jhala	Saved cost and time by converting manual process in to computer logic. The system offers good customer services, saves man days cost, helps in sales and forecasting, focus on weak areas and increasing in revenue, etc.	Ravish Jhala, Information Systems Manager
Parker Hannifin/ Distribution ERP	Mahape (Navi Mumbai)	Udyog Software	Developed special integration utility between Udyog ERP and JD Edward ERP, which is a unique concept	Vaibhav Joshi, IT Manager
Pepsi/ pepsichannels.com	India	Solutions Integrated Marketing Services	This project is based on live audits for Pepsi using SMS service which can be reported and analyzed on Web immediately	Abhishek Dangwal, Project Manager
PNB/CBS Implementation	India	STG International	Core banking solution	Harmeet Singh, Project Manager
Power Grid Corporation of India/Web based B2B Inspection Management System	Gurgaon	Inhouse	A unique e-Governance initiative in PSU through integration of People,Process & Technology enhancing efficiency and transperency	S Majumdar, Director -Projects
Precision Electronics/Project IT-Parivartan	Noida	IWP	This will bring a revolution, changing the way we work	Vidur Kanodia, CIO
PT Education/ Evaluator	Pan India	Veltronics India Pvt ltd	Solution For post examination needs with lowest recurring cost and use of available image scanners, efficient, nearly 100% accurate. Result just by scanning students response	Sandeep Manudhene, CMD
Puravankara Group/ Oracle E-Business Suite	NA	KPMG	Completed deployment of Oracle E-Business Suite as part of its expansion plans to address growing residential and commercial real estate requirements	Ravi Ramu, CFO
Raymond/Drishte	Thane	SAP	SAP implementation done in a very planned manner	Rajeev Shirodkar, VP-IT
Reliance Indutries/ Polyester Manufacturing Reporting System	Patalganga, Hazira	Inhouse	This reporting system has resulted in proactive quality and productivity enhancement bringing more than Rs 200 crore savings, as it helps production team proactively achieve superior polyester quality and yield through real-time analysis of production	Ashish Chauhan, CIO
Sahara India Commercial Corp./ Aamby Valley City	Lonavla	Avaya Global Connect	Telecom & IT infrastructure in a forest land	Seemanto Roy, CEO

BEST IT IMPLEMENTATIONS

Company/Project	Location	Implemented by	Description	Project Head
SBI/Core Banking Project MD (IT)	Belapur, Navi Mumbai	Tata Consultancy Services	It is the largest project of its kind in banking industry in the world	Ashwini Kumar Sharma, Deputy
SBI/Core Banking Project	Pan India	Tata Consultancy Services	One of the largest IT initiative in Banking Industry as it involves mammoth efforts to bring a very large number of branches located in diverse locations on core banking	S K Sehgal, GM-IT
SBI/Finacle at SBI-Foreign Offices	Across all branches	Infosys/ HP	A complex project considering the timelines, variety and the value it added to SBI	S K Shehgal, GM-IT
Scrabulous.com/ Online Scrabble	Kolkata	RJ Softwares	Largest free web-based Scrabble site in the world developed and maintained by Indians	Jayant Agarwalla
SEA-ME-WE4 Fiberoptic Submarine Cable Consortium/SMW4 Network Administration System	Mumbai	VSNL	It has revolutionized submarine cable consortium functioning, using Web-based request processing, customer complaint handling, online data sharing and reporting mechanism	A Salam, DGM-International Facilities
SHV Energy/ SuperGas	Hyderabad	Intelligroup	SHV Energy managed a Big-Bang implementation across 25 locations simultaneously within 6 months, with 10,000 hours of structures training done alongside	V N Diwakar, VP-Business Development & Special Projects
Silgate Solutions/ Server Room shift	Andheri	Sunil Kankal	Shifting of all operational servers and WAN equipment done complete within 36 hours	Nikhil Bendre, IT Manager
Skylark Group/ DESK - Dynamics Evolution of SKYLARK	North India	Headstart	Focuses to blend technology to manage live stock life cycle in an organized way, integrating the primary functional areas	Jagbir Dhull & D Das, Directors
Sonic Biochem Ext/LAN to WAN Centralised Database	Indore	Inhouse	Helped organization to do real time data processing	Kamal Matta, Manager IT
SpectraNet/Sanchay	Pan India	Headstart	This project integrates the telecom (ISP) services & billing with core finance and accounting to have technology impact in managing managed services in this sector	Syed Abbas & Harish Mandani, Director & CFO Implemented
Srinivasa Hatcheries/ Project Astra	Hyderabad	Intelligroup	SAP for poultry industry	Kiran, Manager-Projects
Standard Chartered Bank India/Branch NW Enhancement	Pan India	Cable & Wireless	Implementation was successfully carried out on a live banking network in India/Asia without affecting the services. There were an avarage of 5 cut-overs carried out per day	Rajesh Vaidya, Sr Project Manager
Suguna Poultry/ ERP Implementations	NA	NA	Live on Oracle applications to become first poultry farming company in India to implement a world-class ERP	S Karunanithi, AGM-IT
Tamil Nadu Electricity Board/Project BEST	Tamil Nadu	Gemini Communication	TNEB is spending more than 120 Crores on the project. Uniqueness of the solution is that it sets up the infrastructure in wired & wireless manner	B Srinivasan, Director-Technical Operations

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Cover Story

Company/Project	Location	Implemented by	Description	Project Head
Tata Bluescope Steel/Steelwings	Pune	Tata Technologies Ltd.	Leveraged technology in new ways to bring about business benefits. Today, SAP's modules of CRM/FI/CO/PP/SD/ MM/HR/PM/PS/SM/BW etc are Live on SAP and delivering unique business benefits every day	G G Rao, GM-ICE
TEAM/ERP implementation	Chennai	Manufacturing Logistics Control Functional Consultant	ERP implementation using CES	M Pitchumani,
Thapar Institute of Engg & Tech/Campus-wide Wi-Fi	Patiala	Not known	Unique design of WiFi with POE switches and layer 3 capabilities	Manpreet Singh, Sr Engineer
The Leprosy Mission Trust/Clinical Research Information Systems	Noida	Songbird Technologies	Open-source, cost effective clinical research management application. Improves quality of research and increases the safety to patients in the clinical trial by effective leverage of technology	Prem Kurian Philp, CEO
Torrent Pharmaceuticals/Mission performance	Ahmedabad	IBM	Performance improvement of our SAP production landscape. Post implementation we have achieved 10 times performance improvement	Jyoti Bandopadhyay, VP-IT
Toyota Kirloskar Motor/CONNECT	Bangalore	IBM, Bharthi, Infinium Network	Improved effective communication through the implementation of integrated dealer and business systems to meet the immediate needs and future challenges. The solution has reduced lead times, standardized processes and improved accuracy of data	Keshava Prakash S K, GM-Information Systems
UP Govt, Dept of Appointment, Personnel & training/NiyuktiSeva Online	Lucknow	NIC	Successful model for transacting personnel information electronically bringing overall efficiency and transparency. Contains top civil servant database for secretariat governance	Umesh Sinha, IAS, Secretary
Vallabh Steels/Inter-department cooperation	Ludhiana	Munjal esystems	Integrates all business functions; has improved top management control and boosted productivity by 30 percent	Rahul Jain, MD
VSNL, India and VSNL-International/Hosted Messaging and Collaboration service	Chennai and Mumbai	Microsoft Corporation India Pvt. Ltd.	India's first enterprise grade, rich-media, push-mail enabled service, with an ability to support personal domain Hosted Messaging and Collaboration (HMC) service plaform	Project head from company not specified
Western Railway/Unreserved ticketing system in railways	Western Railway	---	Unreserved ticketing system in suburban and Western Railway	Pinaki Ranjan Mahapatra, Chief Communication Engineer
Zee Entertainment/Asset Management System	Mumbai	IBM	First solution in Asia Pacific to digitize, archive and preserve the media assets and get organization ready to earn revenues from mobile TV, IPTV, Video on Demand and other emerging content consumption opportunities	Ishwar Jha, Sr V P-Business Technology
Government of Tamil Nadu/Citizen centric Service Delivery	Tamil Nadu	NIC	Several lakhs of employees and pensioners are immensely benefited on account of salary pension payments through ECS	Qudsia Gandhi, IAS, Special Commissioner & Commissioner

Shootout

25 Color & Monochrome Lasers for Every Need and Budget

Rahul Sah and Rakesh Sharma

We tested 10 color and 15 monochrome laser printers for just about every requirement, be it for personal use, or for small, medium, or even large workgroups in an organization.

Note: You can download the specs and performance tables for all the printers reviewed here from http://forums.pcquest.com under the Shootout Tables thread.

Last month we brought you a comprehensive buying guide on laser printers. This time, we bring you a comprehensive range of options to choose from. We receieved a mix of 25 different color and monochrome laser printers for small, medium, and large workgroups. These included 10 color and 15 monochrome laser printers between a price band of 10K to Rs 2.30L. That pretty much covers just about every type of laser printer that's out there today. We would also like to point out that 50% of the models we received this time were from HP, which isn't surprising given that HP has the largest market share in this segment. So they whole-heartedly participated in the shootout. In fact, there were so many HP printers, that some of them could not be ranked because we didn't receive a competing model to compare them with.

The models we did recieve were categorized in various price bands, which would suit various budget points. We ensured that the printer prices within each price band had minimum variation.

Trends

Before we get into the reviews, we'd like to take you through a few trends we've observed in laser printers, followed by the procedure we adoped for testing. Nowadays, all workgroup lasers are print servers in themselves, so a dedicated computer is not needed to act as a server. Once these are installed on a network, the other systems on the network can fire a print directly to these printers. Plus, most of them can be remotely managed by administrators. Some printers come with separate monitoring and management software that allows you to manage all printers on the network. Some third party tools are also available for central monitoring of network printers. These tools can be ▷

Shootout

used for coordinating and administering an enterprise printing network efficiently. Plus, they can help an administrator to monitor the supply status of all network printers and also set user restrictions. Some of the vendors have introduced printer maintenance services. Under these services, the printer is provided to you on lease and the vendor charges you on the basis of printer usage and takes care of the consumables and maintenance. We'll now take you through how we tested the laser printers that we received this time.

How we tested

We used our three axis model of performance, price, and features for evaluating all the printers. We used the Brown-Gibson model to arrive at the weightages for the various parameters that we used for scoring. This time, as we'd received a wide variety of printers, there were some categories where there were only two models. In such cases, we didn't apply the Brown Gibson model, but did a one to one comparison between the models.

Performance tests

Once the categorization was done for monochrome and color laser printers we set up the test-bed for printer testing. Since all printers were meant for networked workgroups and had Ethernet support, barring one (the Epson EPL-6200L), we tested them over an isolated network so that there was no unnecessary traffic to hinder our tests. We performed tests to check for quality and speed of printing for each printer. The tests were done using Word 2000 and CorelDraw 9. Each test was repeated thrice and its average was considered. If the difference between any two readings was more than 10 percent, the test was

repeated. The printer was set to print directly rather than do spooling at the host machine. This way the memory of the printer could be stressed. The following tests were done for getting the performance score of the printer.

The speed Tests: We measured the printing speed for the following types of documents:
1. *Time taken to print first page of a multi-page document.*
2. *Time taken to print a multi-page document.*
3. *Time to print multiple copies of the same page.*
4. *Time to print a single page with a small graphic.*
5. *For color lasers, a 16 MB full-page photograph was printed and the time recorded.*

Print quality: After setting each printer to the maximum print resolution it supported, we checked for the following:
1. **Smallest readable font.**
2. **Full-page monochrome graphic.**
3. **Line art and curves.**
4. **Grayscale test:** This image has gray shades variation done on a rectangular ramp of 21 and 51 steps. It is also in form of concentric-circles where gray shades get lighter to darker from center. We checked how well defined and distinct these steps and concentric circles can be seen.
5. **Quality of fountain fills:** This is a smooth gradient of shades of gray. We checked how accurately each printer was able to replicate this without any banding.
6. **Quality of full-page color image:** Here, we took a full color image print on plain paper as well as on photo paper and then compared the quality.

All the above tests were done on A4 Xerox paper. For color photo printing, we used 173 GSM photo paper.

Features

This time, we compared the monochrome and color lasers for 15 and 16 different features respectively. The features we compared for monochrome lasers included maximum supported resolution of the print engine, the availability and functionality of a control panel on each printer; auto-duplex capability; cartridge/toner life; maximum memory suppoted, types and sizes of paper supported, manageability features, number of trays and tray capacities, availability of hard drive, the Operating Systems for which drivers were available (online as well as with the product), types of print jobs supported, secure printing capabilities, and additional features if any. For color lasers, we used the above parameters, plus a 16th parameter for standards supported like PCL, PS, and Pantone certification.

For each of the features, we actually counted the supported parameters. In case of printer accessories for instance, w e looked for the total number of input trays available, whether additional paper trays could be accomodated, etc. We also looked for things like ease of upgrading. For this, we looked at how easily you could access different parts inside to upgrade the printer, like adding a hard disk, compact flash memory, RAM or a wireless network card. We also looked at ease of setup and configuration, printing modes, recovery from paper jam, support for multiple platforms and other features, if any. In case a printer cateogry didn't have some of the features, then those features were removed from the scoring to ensure they didn't affect the printer scores.

Pricing

Here, it's not just the price of the ▷

■ Shootout

printer that's important, but also its warranty, support, and running cost such as cost of toner cartridge, drum, RAM upgrade, etc. Out of all these, support provided by the vendor is ex-tremely crucial. However, judging the quality of that is not something that can be done in a lab. You would need to make your own judgement on that. Some guiding parmaeters to help you decide can be the total number of service centers, the type of warranty offered by the vendor, assurance on next/same day replacement of bad parts, etc. □

Evaluating printer running costs

Earlier, most printers used to have a separate drum unit, which had a much longer life than the cartridges. Nowadays, you'll notice that a lot of vendors have fused the drum with the toner catridge. So you end up replacing the drum every time you change the car-tridge. One key advantage of doing this is that one does-n't need technical support to replace the drum, which is the case for printers with separate drum and toner car-tridge units. But is it really cost-effective for the con-sumer? To check that we took two printers of the same category. One had a separate toner and drum (namely X) and the other had a fused cartridge unit (namely Y). The drum of printer X had a life of 30,000 pages. We calcu-lated how many toner changes would be required to print 30,000 pages from each printer. The cost of toner unit of printer X was Rs 4,400 with a yield of 7,500 pages and the cost of cartridge of printer Y was Rs 7,497 with a yield of 6,500 pages. The printer X would have con-sumed 4 toner units before its drum would need replace-ment. So, the total price would be for 5 toner units and drum, which comes to of Rs.28,050. Printer Y would need five cartridges to print 30,000 pages, raising the total cost to Rs 37,485. So the running cost of Y is much higher. We suggest that you do also do these rough cal-culations before buying a printer to understand its run-ning cost.

Entry Level Color Laser Printers

Xerox 6110 N

+ Cheap, Good print speed
− Barebone, poor graphics quality

The Xerox 6110 N is a good option if you are looking at a low cost, high speed and barebone color laser. Being barebone, it doesn't have any LCD display control panel. no additional paper trays, a paper tray capacity of only 150 sheets, and no real additional features. Plus, the rated yield of its cartridges is 1000 pages per color cartridge, which is just half of the two HP printers in its category. The printer comes with 32 MB memory, which unfortunately is not expandable. This is much better than the HP 2600N, which only supports a max memory of 16 MB. The 6110N gave the highest print speeds in its category. It managed to churn out 15 pages per minute, with the first page out in just 11 seconds. A full page graphic came out in just 14 secs, which was less than half the time

Overall Score
218

time. Print quality of this printer was nothing to write home about. It showed broken lines in lineart, color graphics weren't very good, and likewise for monochrome graphics quality. For

taken by its com-petitors. But print-ing a page with small color graphics took the same amount of

black printing, you have to select the 'use black color' option from its properties, else it will use up the color cartridges. Overall, it's a good barebones printer for a small office that prefers speedy color prints.

□

Price: Rs 18,980 (1 yr warranty)
Contact: Xerox India, Delhi.
Tel: 0124-2561930
Email: pankaj.malhotra@xerox.com
SMS Buy 130641 to 6677

Shootout

HP Color LaserJet 2600n

CYBER MEDIA LABS HIGHLY RECOMMENDED

+ Good print quality
− Takes more time in printing first page

Overall Score
224

This HP 2600 is more feature rich than the Xerox 6110N. It's a little slower than the Xerox, but what it looses out in speed, it gains in quality. The printer gave much better graphics quality than the Xerox 6110N. It also scores more in the features department as compared to the Xerox 6110N. For one, it has an LCD panel for better manageability. It has a higher capacity paper tray of 250 pages, plus you have an option to add another tray. One hitch is that the printer comes with only 16 MB memory, which is not expandable. The printer's cartridges give a higher rated yield than the Xerox printer. This comes to 2500 for black and 2000 for color cartridges at 5% coverage. It supports a maximum resolution of 600x600 dpi. Coming to performance, the printer achieved 7 ppm print speed and took 25 secs to print the first page. Printing full-page color graphics with this printer took about 37 secs, and having a print out with small graphics on the page took the printer almost 25 secs. In quality, the results were satisfying. In full page color graphics, the quality of the print out was pretty good. In CMY print test, the performance was not good. It showed some banding and we saw some patches on prints. But in gray scale printing, it really performed well. In line art printing, we observed that the curves were very smooth as were the lines and shades. This indeed helps it to cover up the speed demerit. Overall, it's a good buy given its price and features. □

Price: Rs 19,999 (1 yr warranty)
Contact: HP India, Gurgaon Ph: 2566111
E-mail: nkapoor@hp.com
SMS Buy 130642 to 6677

HP ColorLaserJet 2605 dn

PCQUEST Editor's Choice

+ Support for 1200 dpi, has a duplex unit
− Takes time in printing in first page

Overall Score
241

Performance and features are the two things that have helped the 2605 DN become the winner in entry-level color lasers. It is somewhat similar to HP 2600 N laser printer,but costlier due to additional features and better performance. For one, you can expand its memory to 320 MB memory. The printer also comes with a duplexer unit. It supports 600x600 dpi resolution for color and 1200x1200 dpi for black and white, which is an advantage over the HP 2600 N. The yield of its cartridges is the same as its younger cousin--2500 pages for black and 2000 pages (per cartridge) for color with 5% coverage area. Coming to print speeds, the printer could print a multi-page text document at 12 ppm. For the remaining speed tests, its performance was similar to the 2600N. In duplex printing, it clocked 9 ppm. Coming to print quality, we took print outs of full page color graphics and the quality was really very good compared to all other printers in its group. The CMY test was also good. In line art printing, the curves were very smooth and the lines were distinct and clear. The gray scale clarity was also very much satisfying. All the rectangular and circular bands were distinctly visible . Despite a higher price, the printer gains over others due to its features and performance. □

Price: Rs 26,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
Email: nkapoor@hp.com
SMS Buy 130643 to 6677

■■ Shootout

Medium Workgroup Color Laser printers

HP LaserJet 3000n

+ **High RAM, Good print quality**
– **None**

This printer gives an excellent combination of performance, price, and features, which make it the winner in this category. The printer with its 533 MHz processor and 128 MB RAM can handle large volumes and complex documents for printing. It has slots for extending the memory up to 512 MB, which is much higher than 16 MB of the Canon LBP 5300. The printer is easy to install and you can configure its network settings directly from its 2-line LCD control panel. You can also manage it remotely from a web browser. It has manageability features like color access control, using which you can restrict the users who can print in color. Its input tray capacity is 250-sheets and you can add an optional 500-sheets tray. The rated cartridge life is 6,500 pages for black color and 3,500 for color (CMY) cartridges. The 3000N also supports secure printing, which is not there in Canon. It does however, lack an auto-duplexer that comes as standard accessory with the latter.

The printer has a resolution of 600x600 dpi. The 3000n performs better than Canon LBP 5300, giving a print speed of 29 PPM and first page out in about 9 seconds. The printing speed for color pages is slower than mono prints, which is unusual, as most laser printers in this price range print both at same speed. The full-page color print took about 21 seconds, while a document containing text with small graphics took 14 seconds. In quality tests, it gave good quality grayscale prints, with no banding. Line art and curves printing was smooth with no breakage. Full page graphics looked more natural and sharper.

The printer supports an optional HDD for job-storage. With this price and features, the printer is good value for money. ☐

Price: Rs 70,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
E-mail: mahesh.soni@hp.com
SMS Buy 130646 to 6677

Canon LBP 5300

+ **Auto duplexer, fast color printing**
– **High consumables cost, no RAM upgrade**

This printer has a higher color print speed than the HP 3000N. Moreover, this is the same as its black print speed. The printer has a standard memory of 16 MB that can't be extended. It's easy to configure and install on a network, despite the fact that it does not have an LCD control panel. The installation software detects the printer through its MAC address after which you can assign it an IP address. The printer has a rated cartridge life of 6,000 pages for both color and black cartridges. It has a built-in auto-duplexing unit. This saves time and paper. The printer has an input tray capacity of 250 sheets and an optional 500-sheet tray. With no HDD expansion option and no additional memory, the features of job storage and secured printing cannot be availed. The browser interface provides better manageability with features like IP filtering, so that you can restrict access to it. On the performance front the Canon LBP 5300 has faster print times for color printing as compared to HP LJ 3000N. The printer gave a speed of 22 ppm, with first page out in 11 secs. Its color printing speed was almost the same as it monochrome print speed. It took about 11 secs to print a full page text with small graphic. The quality tests showed some banding in fountain fills. Line formation was smooth, but there was some jaggedness in curves. Full-page color graphic prints took 15 secs and were of average quality. Grayscale prints showed all bands of gray shades for both circular and rectangular bands.

Overall a good printer, but RAM is a limitation. ☐

Price: Rs 85,995(2 yr warranty)
Contact: Canon India Private Limited, Gurgaon. Tel: 1800-345-33-66
E-mail: info@canon.co.in
SMS Buy 130647 to 6677

Shootout

Large Workgroup Color Laser printers

HP 5550 DN

+ Good quality, high speed
– Takes time to print first page

This is a heavy-duty printer meant for large workgroups. It has the capability of printing A3 size pages with maximum resolution of 600 dpi. It has a total yield of 13,000 pages with black cartridge, and 12,000 pages with the color cartridge (5% coverage area). It has duplex printing, and comes with 160 MB installed memory that can be upgraded to 544 MB. It has a RISC processor of 533 MHz. The standard paper tray is of 500 pages, but you can add up to three additional trays with capacity of 500 pages each. It has an output tray of 250 pages. You have the option of installing a 20 GB HDD in it. Installing the printer is pretty simple and its web interface let's you easily manage the printer remotely. It has features like IP filtering, which actually help you to restrict or allow specific IPs for printing. It also has the option of sending alerts to you via emails. Coming to performance, the printer takes a long time to warm up. So the first print of a multi-page document takes around 15 seconds. But printing speed is good at 28 ppm. In duplex printing it gave 13ppm. The printer did well in quality printing, and as good as the Canon LBP 5960. Full page color graphics are excellent. CMY prints were very vivid with all variations in primary colors distinctly visible. Line art and curves printing was excellent with smooth edges and fountain fills. In gray scale printing, it performed very well and we were able to count all the shades without any difficulty. In addition the color variation was also good. Overall, an excellent buy for large workgroups looking for both good quality and speedy prints. □

Price: Rs 2,34,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Tel- 2566111
Email: mahesh.soni@hp.com
SMS Buy 130648 to 6677

Canon LBP 5960

+ Excellent print speeds
– Print Quality

This is a good choice for large workgroups wanting fast color printing. This printer can also print A3 pages like the 5550 DN, and supports a higher resolution of 1200 dpi. The printer's cartridge gives a total yield of 10,000 pages for black and 6,000 pages for color (with 5% coverage area). It has a 400 MHz processor, comes with 128 MB of installed memory that can be expanded to 384 MB. This printer has input/output trays of 250 sheets each, and you can install an additional three trays with 550 sheets per tray. Like HP 5550 DN, this printer also has an option for IP filtering and for sending alerts. You can optionally install a 20 GB hard disk. Its LCD control panel has only a single line display, which makes it a little convenient to navigate. The HP 5550 DN has a 4-line display, which is more user friendly. Installing this printer is simple and the browser interface is also good. Coming to performance, this printer did much better than HP 5550DN. It took only 8 secs to print the first page, and its speed was 30 ppm. It printed at 17 ppm in duplex mode. It took 9 seconds to print a full page of text with color graphic as well as a full page graphic.
Print quality was not as vivid and detailed as the ones printed from HP. In gray scale test the band was distinctly visible, but the gray scale variation was not so satisfactory. Overall, an excellent printer for workgroups requiring high speed prints, but quality is not as good as the 5550DN. □

Price: Rs 2,29,995 (2 yr warranty)
Contact: Canon India Private Limited, Gurgaon. Ph: - 1800-345-33-66
E-Mail: info@canon.co.in
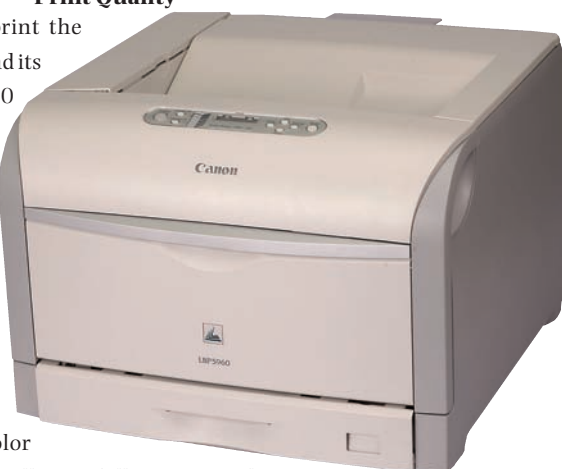SMS Buy 130649 to 6677

Shootout

Entry Level Mono Laser Printers

EPSON EPL 6200L

Overall Score
234

This was the only printer in the shootout to have optional network support. It didn't ship with a network port, so we had to test it with its USB 1.1 interface. The printer is meant either for personal use, or for sharing amongst very few people. It supports a maximum resolution of 600 x 600 dpi. Its toner's rated yield is approx. 3000 pages with 5% coverage area. It has 2 MB fixed and non-expandable memory. Coming to performance, it printed the first page in 14 seconds, which was a little slower than others in its category. For multi-page documents, it printed at a rate of 22 ppm, which is good compared to others. It took 15 seconds for printing a full page with mono graphics. In the quality test, it wasn't very impressive as the full page mono graphics print had a little bit of banding. In line art prints, the curves

+ Small size
– No network adapter

were not smooth. Even the lines were broken. In gray scale, the bands were distinctly visible and the print quality was not satisfying. Overall, a good printer for personal use, provided you only print regular text pages with it. □

Price: Rs 10,800 (2 yr warranty)
Contact: Epson India, Bangalore.
Ph: 30515000
E-mail: prabagaran@eid.epson.co.in
SMS Buy 130650 to 6677

Canon LBP-1210

PCQUEST Editor's Choice

Overall Score
254

This was the best personal laser printer of the lot, giving excellent performance and a decent set of features at a very good price. It supporrts a maximum resolution of 600 x 600 dpi, has a 16 MHz processor and 2 MB installed memory. This printer has both a USB 1.1 and a network port. One good thing is that it has zero warm-up time, so unlike other printers you need not wait for it to get ready to print. On the performance front, time taken to print the first page was just 10 seconds, which was the best in its category. It gave a print speed of 14 ppm, which is as per its rating, but also the lowest in the group. The printer took 13 seconds to print a full-page monochrome graphics, which is good. On the print quality front, it was amongst the best in its category, falling very close behind the top performer of the group, the Samsung

+ Zero warm-up time
– USB 1.1

2571N.The print qual-ity in full page mono-chrome graphics however was average. Line art printing was fine, and curves printing was smooth. In gray scale test, the bands were clear enough to be counted though some were merged. The smallest readable font was 2 point, but with a little bit of jaggedness. Overall, it's an excellent choice for personal printing requirements, or even for very small workgroups. □

Price: Rs 10,995 (2 yr warranty)
Contact: Canon India, Gurgaon
Ph: 1800-345-33-66
E-mail: info@canon.co.in
SMS Buy 130651 to 6677

Shootout

Samsung 2571N

CYBER MEDIA LABS HIGHLY RECOMMENDED

Overall Score
253

+ Supports 1200 dpi
– No control panel

This entry level monochrome printer gave the best performance and had the best features in its group. However, it was a little more expensive. Samsung supports a resolution of 1200x1200 dpi. It has a 400 MHz processor and ships with 32 MB RAM, which is not expandable. Setting up this printer on a network was a bit complex. You need to install a different software provided with the printer itself to assign it an IP address. Only after that can you install the regular software and drivers for it. If you try to directly install the drivers, then the software won't be able to find the printer. In the speed tests, the time taken for the first page was 11 secs, and the average print speed came to 22 ppm, which is really good. Full-page monochrome graphics page took 12 secs to print. In quality tests, the minimum readable font that the printer could print was 2 Point Bold. Line art and grayscale printing was average. The curves were not very smooth and in printing bands of different shades, not all the bands were visible. We then ran all our quality tests on 1200x1200 dpi resolution, and the results were much better. Minimum readable font size was now 2 Point Normal. Line art printing was very smooth, but there were still a few breaks in the curves. In gray scale printing, the bands were much more clear. Overall, its print quality was the best of the lot. Given its set of features and performance, the printer is a good choice for personal use.

Price: Rs 12,990(1 yr warranty)
Contact: Samsung India Electronics, Delhi. Ph: 51511234
E-mail: anupam.k@samsung.com
SMS Buy 130652 to 6677

HP LaserJet 1022N

Overall Score
238

+ Compact, supports 1200 dpi
– No control panel

This HP 1022N was the most compact personal laser of the lot. This printer has both a USB 2.0 interface as well as a network port, which can be used for sharing the printer between a very small workgroup. This was also the most expensive printer in its category. This printer also supports 1200x1200 dpi resolution, like the Samsung 2571N. This printer has only 8 MB memory installed and has a 266 MHz processor. The yield of its cartridge is 2500 pages. The installation of this printer is also complex. Initially you have to install a software called SetIP which searches for the printer on the network, and let's you assign an IP address to it. You can install the drivers for it after that. Its browser based management interface is good and provides basic functionality. In the speed test, time taken to print the first page was 11 secs, which is decent, and the average print rate was 17 ppm, which is a bit slow compared to others. For printing full-page graphics, the printer took 12 secs, which is good. Full-page monochrome graphics weren't as good as the others. The picture appeared hazy and pixelated. The gray scale test for printing shades of gray was good. In line art, the printer performed average, and lineart and curves printing was not smooth. Nevertheless, the printer came with the cheapest consumables, making it an attractive buy. □

Price: Rs 14,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
Email: uday_bhat@hp.com
SMS Buy 130653 to 6677

■ Shootout

Small Workgroup Mono Laser Printers

Samsung ML-3051N

CYBER MEDIA LABS HIGHLY RECOMMENDED

+ High yield cartridges, toner save button
– Average graphics

Overall Score
230

This network ready printer scored the highest in features in its category. Performance was also good, and it was also the lowest priced. However, it also had the lowest warranty of the lot. The printer suupports a maximum resolution of 1200 dpi, has 64 MB installed memory, which can be expanded to 320 MB. It has 400 MHz processor. It has an input tray of 250 sheets and the output tray of 150 sheets. The printer supports drivers for Windows, Linux and Mac, including Windows Server 2003. This printer's cartridges had the highest yield of the lot at 8000 pages. Moreover, it even has a toner save button to improve the yield even further. In speed tests, the time taken to print the first page was 10 secs and the printing speed was 25 ppm. The printer took 11 seconds to print a full-page monochrome graphic, and the quality was not very good. There was some banding in the image. Line art was also average with visible jaggedness. Curves were not continuous but broken. Smallest readable font size at 600 dpi was 2 point bold, where at 1200 dpi, even 2 point normal was visible. Overall, this is a small workgroup printer meant for those on a tight budget.

Price: Rs 21,990 (1 yr warranty)
Contact: Samsung India Electronics, Delhi. Tel: 51511234
E-mail: anupam.k@samsung.com
SMS Buy 130654 to 6677

Brother HL 5250 DN

PCQUEST Editor's Choice

+ Automatic duplex function
– None

Overall Score
234

This printer gave the best performance of the lot. Add to that a decent set of features, price, and 3 years warranty, and you have a winner. The printer supports a maximum resolution of 1200 dpi, has a 266 MHz processor and 32 MB installed memory, which is expandable to an amazing 544 MB. It has a paper input tray capacity of 250 sheets. The OS support is available for Windows, Linux and Mac. It supports duplex printing, thereby helping in saving pages. The total yield of its cartridge is 3500 with 5% coverage area. In the speed test, it took only 7 secs to print the first page, and gave an average print speed of 28 ppm. In duplex printing, the speed was 15 pages per minute. In quality test, the smallest readable font was 2-point normal. In full-page graphics, the printed graphics appeared good, and the variation in shades was also fine.
Line art and curves printing was also very good.
So if you're looking for a workhorse for a small workgroup, then go for this printer given its decent print speed, memory support, and print quality. Moreover, since it has a separate drum and cartridge, its running cost is also lower.

Price: Rs 27,230 (3 yr warranty)
Contact: Brother International, Mumbai. Tel: 40988900
E-mail: riya.jiadani@brother.in
SMS Buy 130655 to 6677

■ Shootout

Canon LBP 3360

**+ Zero warm up time, first page out in 9 secs
− RAM not expandable**

Overall Score
204

While the initial cost of this laser printer is the highest, its consumables cost is the lowest. However, with cost, the yield of the cartridge also comes down. As compared to others in its group, this printer's cartridge gives a yield of 2500 pages. This printer supports a maximum resolution of 600 dpi, which is the lowest in its category. Plus, it comes with 64 MB RAM, which is not expandable, and the lowest in its category. The printer has a RISC processor inside. With its small size and looks, it is a good choice for any office environment. It requires zero warm up time. In speed test, it printed the first page in 9 seconds, which is pretty good. The average print speed is 20 ppm. In printing a full-page monochrome graphic, the printer took almost 11 secs, which is just fine for the printers in this work group. Line art printing was good, with smooth plotting of lines and curves. Printing of grayscale shades was above average. Overall an average printer for small workgroups. □

Price: Rs 28,995 (2 yr warranty)
Contact: Canon India Private Limited, Gurgaon. Ph: 1800-345-33-66
E-mail: info@canon.co.in
SMS Buy 130656 to 6677

Medium Workgroup Mono Laser Printers

Brother HL-6050dn

PCQUEST Editor's Choice

**+ 3 years warranty; auto-duplexer built-in
− Average print quality**

Overall Score
254

This printer stands a winner in this category with a good balance of price, performance and features. The printer leads with good pricing and offers auto-duplex printing out of the box. The printer has a standard 32 MB RAM that can be extended up to 160 MB; and has a processor of 200 MHz. It has a heavy-duty cartridge with rated yield of 7500 pages, and yet its cartridge cost is the lowest in its group. With optional flash memory the job storage and secured printing can be done. The printer installation is easy and the network settings for it can be configured through the control panel. The LCD display shows the printer status and in case of problems like paper jams, the printer raises an alarm. This alarm functionality is useful in workgroup environment so as to grab attention; otherwise a number of print jobs will be piled up in queue with no one to attend the problem.

Talking about performance, the printer has a maximum resolution of 1200x1200 dpi and it gives good quality prints in text-based tests. While in grayscale tests little banding was visible, but it gave excellent prints in line-art tests. In speed tests, the performance was below average; it gave a first page print in about 13 seconds and the overall speed was 22 PPM.

Overall, it's a combination of features, performance, and pricing that make this printer a winner in this category. It's a good buy for medium workgroups. □

Price: Rs 35,920 (3 yr warranty)
Contact: Brother International (India) Pvt. Ltd., Mumbai. Ph: 40988900
E-mail: riya.jiadani@brother.in
SMS Buy 130657 to 6677

■ Shootout

HP LaserJet 3005n

+ High RAM, Highest printing speed
– High price

Overall Score
217

This printer is meant for medium workgroups and has a maximum resolution of 1200x1200 dpi. Powered by a 400 MHz processor and with 80 MB RAM it can handle large files printing jobs. It has a fast printing speed and its RAM can be upgraded to 320 MB. Unlike other printers in this category, an auto-duplexer unit is not a part of standard accessory with HP LJ-3005n. The installation of the printer is easy and for network settings, the configuration can be done manually through the control panel of the printer. The control panel menu has a 'Show Me How' option that gives a pictorial representation of some printer handling steps.

The rated cartridge yield is about 6,500 pages and can suffice the needs of a medium workgroup that has a large quantity of print job. This is complemented with an input tray having a capacity of 500-sheets.

In performance tests the printer was able to achieve 36 PPM, which is the highest in this category. It gave a first page out in about 10 seconds. In quality tests, the printer managed to print excellent full page monochrome graphics. Line art printing however, was average. The printer scored fine in other grayscale printing tests. If you're looking for a high speed printer and are willing to pay the price, then go for this.

Price: Rs 49,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
E-mail: mahesh.soni@hp.com
SMS Buy 130658 to 6677

Xerox Phaser 3428DN

CYBER MEDIA LABS HIGHLY RECOMMENDED

+ Auto-duplexing, best performance score
– High cost of consumables

Overall Score
233

This printer was the best performer in its category, and even its pricing score was decent. It scored a little low in the features department. The printer has a maximum resolution of 1200X1200 dpi and gives excellent prints. It comes with 64 MB RAM that can be extended up to 320 MB. The printer's 400 MHz processor can handle complex print jobs with ease. It also has an auto-duplexer as a standard accessory for two-side printing that saves time and paper. Being a network printer it also has browser interface for remote administration. The control panel includes a two-line LCD display where through menu the printer settings can be done even for the network.

The printer leads in this category in performance score. In our tests, it gave good quality text prints. Similarly with full-page graphics and grayscale tests the quality was better than other two printers. During speed tests the printer gave a first page print in about 8 seconds while it was able to achieve its rated print speed of 30 PPM.

Overall, a good performance printer available at a competitive price. □

Price: Rs 35,152 (1 yr warranty)
Contact: Xerox India Ltd., New Delhi. Ph: 0124-2561930
E-mail: pankaj.malhotra@xerox.com
SMS Buy 130659 to 6677

■ Shootout

Large Workgroup Mono Laser Printers

HP LaserJet 4250n

+ Fast print speed with good quality
– None

Overall Score
275

This printer with its 45 ppm speed can do heavy print jobs with great ease. Its print speed remains unmatched in this category. The HP LJ 4250n has a perfect balance of price, performance and features and that's why it's the winner in this category. It comes with 64 MB RAM with an option to extend it up to 512 MB. Its 460 MHz processor is the workhorse behind its fast and crisp printing.

The printer installation is easy and through the control panel that has a 4-line LCD display the printer can be manually configured for an IP address. The browser interface gives an administrator manageability options like user restriction and alerts. The auto-duplex printing unit can be installed as an optional feature. As it is meant for large workgroups, it has a high input tray capacity of 500 sheets.

On performance front it scored highest in this category. While testing, the printer easily achieved its rated speed of 45 ppm and takes about 8 secs to print the first page. With a resolution of 1200 dpi, it gives fine and crisp prints in all quality tests. For gray scale printing, the quality was best and there wasn't any banding.

The printer has instant-on technology, so it takes less time to warm up after coming out of power-save mode and prints the first page in about 20 secs. There are two slots for Compact Flash that can be used to enable use of third party tools like secured printing. The optional HDD can be used for job storage. It is well suited for corporate offices where workgroups have high gray scale print jobs and also want quality with speed.

Price: Rs 71,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
E-mail: mahesh.soni@hp.com
SMS Buy 130660 to 6677

HP LaserJet 5200n

+Wide-format printing, high-yield cartridge
– Priced highest in this category

Overall Score
226

The printer can support A3 printing and that is the reason it's priced higher despite having lesser features compared to HP LJ-4250n. The printer comes with 64 MB RAM that can be extended up to 512 MB. It has two Compact Flash slots that can be used to install third-party tools like barcode printing or additional fonts.

The printer installation is an easy process and the network configuration of the printer can be done manually using the control panel. The browser interface provides better manageability with features like user access control, alerts and monitoring supplies status. The printer has an input as well as output tray capacity of 250 sheets. In the performance tests the printer performed well. It gave a speed of 36 ppm with a first page print in about 9 secs. The printer has a maximum resolution of 1200x1200 dpi. The quality of printing during tests was fine and crisp barring the gray scale tests where the banding was clearly visible.

This HP printer also has instant-on technology so warm up time is less. The A3 printing support makes it ideal choice for workgroups that have to print financial spreadsheets or building designs.

Price: Rs 74,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
E-mail: mahesh.soni@hp.com
SMS Buy 130661 to 6677

Shootout

Canon LBP 3500

Overall Score
215

This Canon printer has a maximum resolution of 1200x600 dpi. It comes with a standard RAM of 8 MB with no expandability option. It has support for printing A3 size pages. The control panel lacks a display LCD so there are just basic control features for the printer. The printer has 250-sheet tray capacity for both input and output trays. As this is meant for large workgroups, an optional additional tray with capacity of 500 sheets can also be installed. The printer's cartridge has a rated yield of 12000 pages. Unfortunately, its cartridge cost isalso the highest.

On the performance front, the printer has a rated speed of 25 ppm and during tests it was able to achieve that easily. The time to print first page was also about 10 secs. With such a high print resolution, the printer gave excellent text prints while on gray

Price: Rs 64,995 (2 yr warranty)
Contact: Canon India Private Limited, Gurgaon. Ph: 1800-345-33-66
E-mail: info@canon.co.in
SMS Buy 130662 to 6677

scale prints some banding could be found. In another quality test of line art, the line formation was smooth and no jaggedness of curves was visible. Printing a full-page monochrome graphic took about 12 secs. The quality of the image was average with some banding visible on dark patches.

This printer is ideal for workgroups that have print jobs needing wide paper size printing. □

Other Color Laser Printers

As these printers could not be clubbed into any of the other categories, due to a wide variation in their price, they've not been ranked. We've reviewed them nevertheless to give you more options to choose from.

HP Color LaserJet 4700 N

This HP 4700 is a large workgroup color laser printer. It supports a maximum resolution of 600 dpi, and has 160 MB installed memory though it can support up to 544 MB. It has a 533 MHz processor. It comes with standard input tray capacity of 500 pages and output capacity of 500 pages. You can put one additional tray with the capacity of 500 pages. The total yield of the cartridge is 10,000 pages for black and 6,000 pages for color with 5% percent coverage. It has an option of IP filtering with an additional feature called 'Color restrict'. Through this option you can restrict specified users from taking color print outs, and thus save color cartridge from unwanted use. It has a four-line control panel display, which is easy to navigate. You can configure color restrict option from the control panel also. You can also add a stacker or stapler, which is added advan-

tage for large work group laser printers. You can install 20 GB HDD. Like others, this printer also has an option for sending alerts. In speed tests, time taken to print first page was 10 secs, and average print rate was 30 ppm. To print text with small graphics, the printer took 11 secs and to print full-page graphics it took 11 seconds. Quality-wise, the full-page color graphic was good and more elaborative. In CMYK test, the performance was very good. In line art and gray scale tests it performed so well that we gave it 10 on 10. Overall it is a good printer for large workgroups. □

Price: Rs 1,06,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
E-mail:mahesh.soni@hp.com
SMS Buy 130663 to 6677
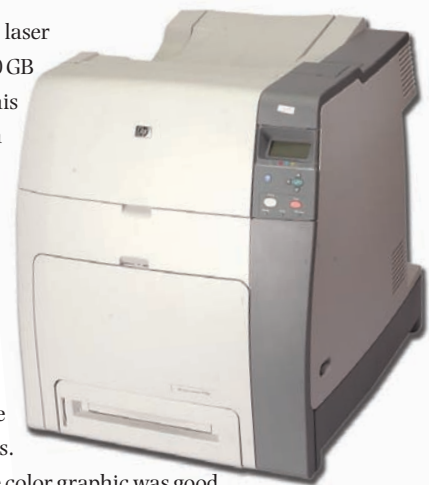
■ Shootout

HP ColorLaserJet 2700n

+ Good print speed
– Average print quality

If you're looking for a regular printer without too many features, for small workgroup color printing requirements, then check it out. The printer's cartridges give an excellent rated yield of 6500 in black and 3500 in CMY with 5% coverage. It supports a maximum resolution of 600x600 dpi, and its memory is expandable to 320 MB. The printer has a standard paper tray with a capacity of 250 sheets. Plus, you can also add an additional 500 sheets tray. Coming to performance, we noticed something very interesting about this printer. When we printed a A4 text document with 5 pages, the printer churned them out at 29 ppm, which is in fact higher than its own rating. However, when we printed a lengthier document with 30 pages, the print speed dropped to about 19 ppm. We noticed that while printing the lengthy document, the printer would pause in between after every 10-11 pages. It took 11 seconds to print the first page. For printing full page of text with a small color graphic, it took slightly longer at 17 seconds. A full page color graphics took 26 secs to print. Color print quality is average with this printer. In grayscale printing, it was not able to distinguish between all the gray shades. Most of the bands in the page were merged together. Line art printing was average, and curves were not very smooth. An average printer overall. □

Price: Rs 37,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
Email: nkapoor@hp.com
SMS Buy 130644 to 6677

HP ColorLaserJet 3600n

+ Good in color printing
– Slow printing speed

There aren't too many differences between this printer and the 2700N. This one is in fact slower, and the maximum memory it supports is also lower. But, you can add an automatic duplexer unit to this printer, which is not possible in the 2600N. The printer supports a maximum resolution of 600x600 dpi. Its cartridges have a rated toner life of 6000 for black and 4000 for color prints with 5% coverage area. It has an installed memory of 64 MB which unfortunately, is not expandable. Coming to print speeds, the printer managed to print A4 text pages at 16 ppm and the first page was out in 13 secs. Printing a page with a small color graphics took around 13 secs which is faster than the 2700 N. Taking a print out of full-page graphics took 13 secs which is half the time required by 2700 N. In quality, comparing the full-page graphics it scored slightly less than the former. However, the CMY printing shows very good quality compared to the HP 2700N. In gray scale testing, the bands were visible but in circular figures some band were merged, but it was better than that of HP 2700 N. Another average printer overall. □

Price: Rs 40,999 (1 yr warranty)
Contact: HP India, Gurgaon Ph: 2566111
E-mail: mahesh.soni@hp.com
SMS Buy 130645 to 6677

◾ Shootout

Other Mono Laser Printers

Just like in color lasers, in mono lasers as well we received printers that could not be clubbed into any of the other categories, due to a wide variation in their price. They've not been ranked, but reviewed here none the less.

HP LaserJet 4350n

+ Fast printing at excellent quality
– None

We christened this printer as the 'paper-shooter.' Its print speed at 52 ppm is the highest amongst all mono lasers we've reviewed this time. To top that, the quality is also excellent. We could not fit this printer into large workgroup printers because first, it costs Rs.20,000 more than the costliest printer in that category. And second, doing so would have done injustice to this printer, as it would have lost out heavily on the price front. The printer is a higher version of HP LJ 4250 series and shares its base configuration with that model. It comes with a standard memory of 80 MB, which can be upgraded to 512 MB. Its 460 MHz processor can handle complex document printing, resulting in faster job completion. With optional 20 GB HDD, the printer can also be used for job storage purposes and printing features such as proof & hold or you could enable secured printing on it. During our tests, the printer was able to print at a rated speed of 52 ppm and gave a first page print in about 7.3 seconds. With its 1200x1200 dpi maximum resolution it gave excellent results in tests to check for quality. In grayscale and line art tests, the prints were of good quality with no bandings and fine lines were visible with no curve breakage. The printer with optional tray bins can take up to 3000 sheets. The cartridge yield also compliments this with a rated 10,000 pages.

Although a bit costly, this printer is ideal for corporate offices, where workgroup requirements are good quality, heavy duty printing. □

Price: Rs 94,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
E-mail: mahesh.soni@hp.com
SMS Buy 130664 to 6677

HP LaserJet 9040n

+ Good memory, fast printing with good quality
– No auto-duplexing

This printer is meant to handle large workgroup print requirements. It comes with a memory of 128 MB with the option of expanding it to 512 MB. The higher memory size means it can handle large print jobs and store job queues. By installing the optional HDD, other features like job storage can also be enabled. The printer has two input trays that can take up to 1000 sheets and there is also an option to add another 2000 sheets tray. The number keypad on the control panel makes it easy for entering the PIN for secured jobs and also for configuring the network IP of the printer. It supports printing for paper sizes up to 11"x17".

On the performance front, the printer offers good speed and quality. It has a maximum resolution of 600 dpi. The printer gave a speed of 41 ppm and a first page print time of about 7 secs. The time to print a full-page monochrome graphic was 8 secs. For quality tests, the printer gave good results in gray scale test while for line art test the lines formation was smooth but showed a little jaggedness with curves. There was no banding in the fountain fill test. We observed a problem with the printer's default PCL driver, as while printing multiple copies of same page it printed a single copy. But with printer's PS driver no such issues were encountered.

The printer has a rated cartridge life of 30,000 pages. Its mgmt interface let's you do IP filtering and remote configuring of the printer for tray behavior etc. besides sending alerts for supplies.

Overall a good workhorse for large workgroups. □

Price: Rs 1,74,999 (1 yr warranty)
Contact: Hewlett-Packard India, Gurgaon. Ph: 2566111
E-mail: mahesh.soni@hp.com
SMS Buy 130665 to 6677

Reviews

Buffalo Terastation Pro II

Saurangshu Kanunjna

Buffalo Terastation Pro II is a low cost, entry level NAS mainly meant for the SMB section. It runs on Linux Samba and has a simple Web interface. It's shipped with 4 hard disks of 250 GB running at 7200 rpm. It comes pre-configured with RAID 5, which reduces the total capacity of 1 TB to 700 GB. Other than RAID 5, you can also configure RAID 0/1/10 or JBOD (Just a Bunch Of Disk). The LCD display at the front, provides vital information, like what is the RAID configuration, IP address, which disks are being used, etc. It has a single Gigabyte Ethernet port and 2 USB ports mainly to connect external storage devices. It has quick swap hard disk tray, so in case one of the disks goes for a toss, you can just unplug it and put a new one, though you need to wait for the replacement HDD which comes from Buffalo only, which may take sometime. It supports al-

Price: Rs 49,999 (2 yrs warranty)

Key Specs: 10/100/1000 Mbps, 4x250 GB HDD (7200 rpm), RAID 0,1,5,10 supported, LCD display

Contact: Advent Infotech, Delhi

Tel: 41436752, e-mail: buffalo@adventelectronics.com

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most all types of protocols, like TCP/IP, SMB, FTP, LDAP, HTTP, NTP etc. Performance wise it wasn't any thing exceptional. We run Net Bench and got a maximum throughput of 50 Mbps, which is decent. This was though expected as this one mainly caters to the SMB section and it will be unfair to compare it with any of the enterprise class NAS we have reviewed earlier.

BOTTOM LINE: Good Choice for SMB though the price is on the higher side. □

Extreme Networks Summit X450-24t

Swapnil Arora

This is a managed switch with 24 10/100/1000 ports, 4 mini-GIBC ports and a managed port at the back, largely meant for telecom service providers and data centers. This switch has quite a few features to ensure high availability such as redundant power supply, modular operating system, Virtual Router Redundancy Protocol also known as virtual router. The Extreme Switch OS i.e ExtemeWare XOS monitors independent OS processes and in case any of them halts it automatically restarts them. It also has support for Ethernet Automatic Protection Switching (EAPS) which allows network to recover from a link fail-over within a second. The switch supports all standard layer 2 and layer 3 features such Spanning Tree Protocol with multiple STP domains, IP Multinetting, DHCP and BOOTP relay and policy based QoS. With its latest firmware the switch can be easily configured through its web interface. The web interface also provides various monitoring statistics, such as Event logs, Utilization Chart, Statistics Table and Bandwidth Chart. The switch also supports Parallel ID and Serial ID GBICs.

We tested the switch using NetIQ Qcheck over a gigabit

Price: Rs 1.8 lakh (1 year warranty)

Key Specs: Modular Operating System, EAPS, Redundant Power supply

Contact: Avaya GlobalConnect, Gurgaon

Tel: 9810824823, e-mail: amit.chopra@avayaglobalconnect.com

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isolated network. The maximum throughput it gave was 615Mbps when transferring 1000 Kbytes of payload from one end to another. Next we flooded the switch with large amounts of traffic and checked for throughput, again. This time, the lowest throughput it gave was 500 Mbps, which is pretty good.

BOTTOM LINE: Considering its huge variety of features and performance switch is a good buy. □

Reviews

MSI Q965MDO

Rakesh Sharma

Based on Intel's Q965 chipset, it supports Intel Core2 Duo, Pentium 4, Pentium D, Celeron D and Quad Core processors. It has 4 DDR2 DIMMs, supporting up to 8GB. For the network connectivity, it has the Gbps LAN port and also IEEE 1349. Besides, it has Intel Active Management Technology which allows it to better discover, heal and protect the networked computing assets. It has one IDE port, which does not support OS installation on hard drive. So if you are looking for installing new OS on you desktop, then you must have a USB or CD/DVD ROM connected or you will have to find other ways. It has 6 SATA ports, 1 PCI Express x16, 1 PCI Express x1, 2 PCI and 4 USB 2.0 ports.

It was tested with 1 GB RAM, 80 GB HDD, Intel Core2 1.8 GHz processor and Nvidia GeForce 6600 GT for external display. It ticked up to 1761 PCMarks, which was an average score. In 3D Mark it showed up 3401 3DMarks. In CINIBENCH 9.5, rendering single core CPU, it ticked up to 249 CB-CPU and for dual core it was 387 CB-CPU. In POV Ray the average render mark came up to 107.10 PPS. As this motherboard is meant merely for office productivity tools, with Doom 3 test it gave only 7.9 FPS. Compared to Gigabyte 965P DS3 which we reviewed last month, this motherboard is a better option as in addition, it has an inbuilt graphics display adapter.

BOTTOM LINE: Worthy motherboard for business-purpose PCs. □

Price: Rs 9,500 (3 yrs warranty)

Key Specs: Gbps LAN, high performance

Contact: MSI, Delhi

Tel: 41758808, e-mail: marketing@msi-india.com
Website: www.msi-india.com

SMS Buy 130682 to 6677

MSI G965MDH

Rakesh Sharma

Like MSI Q965MDO this motherboard also supports Core 2 Duo, Pentium 4, Pentium D, Celeron D and Quad Core processors. It is different from MSI Q965MDO in a way that it supports Intel Viiv, which is meant for digital entertainment. Though, it does not support Intel vPro or Intel's Active Management Technology, as in MSI Q965MDO. This one also does not support OS installation on the hard drive through the provided IDE port. It has AHCI controller with SATA RAID 0, 1, 5 and 10. It also has inbuilt 7.1 high definition audio. It was tested with 1 GB of RAM, 120 GB HDD, Intel Core 2 Duo 1.8GHz and Nvidia GeForce 6600 GT, under Windows XP environment. After running different benchmarks to test its performance, the result that showed up in 3D Mark was 3497 3DMarks; in PC Mark it ticked 4599 PCMarks. Well, for the performance of a single core we ran CINEBENCH 9.5 and the result was 209 CB-CPU, and for the dual core, it scored 271 CB-CPU. In POV Ray, it scored 107.92 PPS and with Doom3 it showed up with the result of 6.9 FPS. As compared to MSI Q965MDH, the score showed up were slightly good. But considering the price factor, MSI Q965MDH is the better option to go for.

BOTTOM LINE: Average performance, but good enough for home entertainment. Overall, a costly buy. □

Price: Rs 11,000 (3 yrs warranty)

Key Specs: Gbps LAN, G965 chipset

Contact: MSI, Delhi

Tel: 41758808, e-mail: marketing@msi-india.com
Website: www.msi-india.com

SMS Buy 130683 to 6677

News & Launches

New De-duplication Technology

NetApp's has announced of advanced single-instance storage (A-SIS) de-duplication technology, which they will be using in NetApp NearStore and FAS storage systems. The introduction of new de-duplication technology provides users with the ability to reduce capital expenditures and management costs by dramatically reducing the amount of storage they need to purchase and manage. The reduction in quantity of physical storage also translates into savings in power and cooling costs and data center real estate costs.

New 'MySpace' from IBM

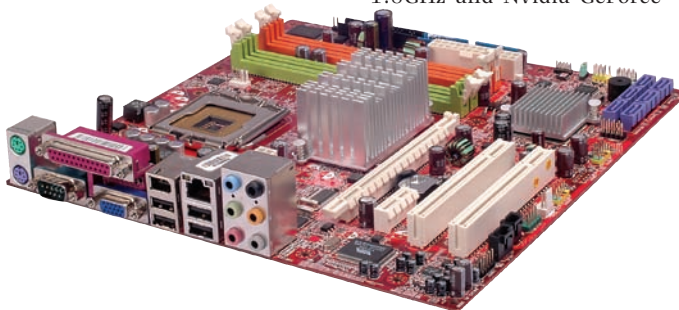IBM's Lotus unit introduced a set of social networking services that functions like a MySpace for office workers. Lotus is going back to its roots as a pioneer of business collaboration software with a service called Connections that features the latest ways for users to share information via the Web, while giving businesses controls over who sees what data. Lotus Connections offers the business equivalent of Web meeting places like MySpace.com or Facebook, Yahoo Inc.'s bookmark sharing site del.icio.us and blog search tools like Technorati.com—stitched together in one package.

Fujitsu with Technological Institute unveils FeRAM

Tokyo Institute of Technology, Fujitsu Laboratories, and Fujitsu Limited have jointly developed a new material for a new generation of non-volatile Ferroelectric Random Access Memory (FeRAM). The material is a modified composition of Bismuth Ferrite (BiFeO3 or BFO), which enables data storage capacity up to five times greater than the materials currently used in FeRAM production.

New FeRAMs can be produced with Fujitsu's 65 nm process technology using the BFO-based material in a device structure similar to the one used to build FeRAMs using 180 nm technology. FeRAMs using this material can provide memory cell capacity up to 256 Mbits.

Alcatel-Lucent's Office Communication Solutions

Alcatel-Lucent announced delivering a set of solutions and a new dedicated Business Partner Program designed to transform the networks, services and business operations of businesses globally. The new office communication solutions form a comprehensive portfolio of products and services that brings together business telephony, applications, cost-effective Voice over IP (VoIP), and a secured LAN and WiFi infrastructure. These solutions enable employees and customers to work together and collaborate efficiently wherever they are, while presence features improve customer response time and drive customer satisfaction.

Eaton's new Powerware 9140 UPS

Eaton introduced its Powerware brand 9140 uninterruptible power system (UPS), a rack-mounted system with a revolutionary compact design that delivers reliable and efficient power protection for medium-and-high-density racks in data centers and other mission critical facilities. It addresses the power density and space-saving issues for data centers and delivers 7.5 kVA to 10 kVA of power protection in only 6U of rack space, including internal batteries.
SMS Buy 130612 to 6677

Updated COBIT Framework

The IT Governance Institute (ITGI) announced the publication of COBIT 4.1, an update to the COBIT (Control Objectives for Information and related Technology) IT governance framework, which provides an authoritative, international set of generally accepted practices that helps boards of directors, executives and managers increase the value of IT and reduce related risks.

SCO's mobile organizer

SCO announced the availability of mobility automation solutions, named DT4 in India. These solutions offer services such as time management, calendaring, and task management by integrating Me Inc. Shout, Vote, and other services. It introduces "Day in a Life" automation for personal and professional tasks and offers custom solutions for verticals markets such as lawyers, doctors, real estate agents, and insurance agents for both mobile and PC clients.
SMS Buy 130612 to 6677

News & Launches

HP's new storage offerings

HP announced new storage offerings for enterprises to help consolidate, virtualize and secure storage environments. The offerings include enhancements to the HP StorageWorks Enterprise Virtual Array, the first embedded switch from Cisco for HP BladeSystem, a new network-attached storage (NAS) gateway and advanced encryption for HP Data Protector Software.

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For worry-free e-mails on Exchange 2007

F-Secure announced the availability of F-Secure Anti-Virus for Microsoft Exchange Version 7. This will ensure that all users connected to Microsoft's email gateway can receive, open and send e-mails without worrying about viruses, worms or other types of malware. The optional anti-spam module increases the productivity by stopping the unwanted spam e-mails already at the gateway level.

With F-Secure Anti-Virus, antivirus protection is proactive, efficient and always up-to-date. In addition to known viruses, the product recognizes new, unknown viruses based on typical features of viruses. IT management can also protect the network against rapidly spreading viruses, worms and Trojans by enabling e-mail filtering based on file types, names or key words.

SMS Buy 130614 to 6677

Panda Software introduces 3 security products

Panda Software launched Panda Antivirus 2007, Panda Antivirus plus Firewall 2007 and Panda Internet Security 2007. Of these, Panda Internet Security 2007 is a complete security suite that provides protection for computers against viruses, spyware, phishing and other types of Internet threats.

SMS Buy 130615 to 6677

Cisco to create Virtual Classrooms

Cisco is going to create virtual classrooms at Bapatla Engineering College, Andhra Pradesh with its Digital Media System. The system will virtualize the classroom environment with remote broadcast and viewing of lectures and on-demand materials. The college will stream live, sessions conducted by visiting professors and subject matter experts to the classrooms. Lectures can be viewed online in 15 class rooms and 40 e-class rooms simultaneously. The solution will also help the institute to simultaneously record and archive the sessions. This will help the students to refer the sessions at their convenience from their hostel rooms as well. The archived sessions is presented to the students over Cisco Video Portal, a Web-based application that allows students to quickly browse, search, and view digital media interactively.

PIMS PCQuest Instant Messaging Service

Price: Rs 2,500 (1 month warranty)

Key Specs: Generates photo badges for visitors and detailed visitors report

Contact: Soft-AID Computers, Pune. Tel: 25447662. E-mail: support@libsuite.com
SMS Buy 130654 to 6677

Buy 130654

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Extraedge

Driven by Technology

In this demanding sport, called F1, sometimes even a fraction of a second can cost a team or driver the race, championship or constructor's trophy

Hitesh Raj Bhagat

A modern F1 car is made up of roughly 80,000 components. Assembling it requires a very high degree of precision. Even if it is put together 99.9% correctly, it'll still go out onto the racetrack with 80 things wrong! That's why competition, teamwork and deadly precision assume so much importance. I had the opportunity to take a behind-the-scenes look at the intense preparation and teamwork involved in Formula 1.

Computational Fluid Dynamics (CFD) plays an important part in conceptualizing and implementing a car design that beats the competition—and it requires oodles of computing power, thousands of hours of manpower, wind tunnel testing and real world testing on the track. That's why AMD signed on with the Scuderia Ferrari F1 team in 2002. As technology partners for the Ferrari Formula 1 Team, AMD powers the 400-node cluster located at the team's headquarters in Maranello, Italy. The cluster uses AMD Opteron processors based on AMD64 technology and runs Linux—the team stays connected to Maranello at every race location via high-speed satellite link. Apart from CFD, there are several other key areas where AMD supplies the edge to Ferrari; engine simulations, telemetry analysis and teal-time performance diagnostics carried out with the help of the supercomputing cluster. During any race or practice session, each car supplies real-time information on acceleration, braking, cornering and overall performance. This data has to be collected, analyzed and then used for further development.

According to Dieter Gundel, head of race track electronics for the Ferrari Formula 1 Team, "The amount of data collected at the end of each race or even a practice session is immense. (It is) in the region of 1GB of data per car, per race. All of this has to be correctly collected, stored and analyzed for us to learn from it. AMD helps us to get the edge over the competition by using solutions based on AMD64 technology".

(*The Author was hosted by AMD at the Sepang F1 circuit during the 2007 Grand Prix weekend*).

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CounterPoint

The Customization Epidemic

Good news: The IT boom is here to stay. For four years, India's IT market has grown at 27%. The recent Dataquest-IDC Megaspender survey shows that over 200 top IT-spending enterprises invested an average of Rs 34 crore *each* on IT last year.

Better news: IT has *spread*. Across verticals, well beyond just banking and telecom; in government, in PSUs, in smaller businesses.

This special issue profiles projects for PCQuest's IT Implementation Awards. From e-gov to insurance, from meter-reading to tele-medicine, there's a huge range in these 250 projects.

I see this vast variety with mixed feelings. Yes, it spells a booming domestic IT market where 40%, well over $6 billion, was services. On the other hand, there's a problem in there, one that affects rapid deployment and scaling up.

The customization epidemic.

It's so visible in e-gov projects. Each Indian state creates projects from scratch, from consulting to pilots…India is a graveyard of hundreds of pilot projects. Some worked, but few were scaled up, let alone replicated.

That's also rampant among midsize businesses. The larger ones have been there, done that. They deployed huge custom projects, and figured there's no way to maintain them, or enhance features three years later. They learnt the value of

Prasanto K Roy,
Chief Editor

standard platforms, modules that inter-operate.

Smaller businesses often can't find, or afford, the solutions they think they need, and walk the custom route. Often, that's in-house development. And then you have projects that are person-dependent and undocumented. There is no easy way to scale, upgrade or even migrate later.

What do you do if you're a small or midsize business, looking for a technology solution—and an SAP or Oracle or Microsoft doesn't seem to fit your budget, or even your needs?

Look harder. The big names have SMB products today, suited to midsize companies in India. You may find even those expensive. Yet…a from-the-scratch custom project may appear cheap, but can end up costing three times more (and taking years longer) than first estimates.

Compromise on features. Feature-creep kills deployments,

> **A from-the-scratch custom project starts out cheap, but can end up costing three times more (and taking years longer)**

where stakeholders get greedier, and keep demanding features. If an off-the-shelf package will do 50% of what you want it to, but will be off and running in three months, take it, over the 'perfect' project that *will* take two years—and may be obsolete by the time you get it going. The package will also have a larger user base, and hence support, peer reviews and inputs. Future updates and scalability are bonuses.

Third: *change your business processes.* Adapt to the packaged application, for it may capture current best practices. Don't insist on customization to *your* business process.

A 'package' won't fit every need, especially in a country as vast and diverse as ours. But it's a great starting point.

There *is* learning in a long custom project. *But it's rarely captured.* One project covered in this issue was an open-source workflow/ERP built within a college over five years. The students' learning was great, but it would be rare for this to be retained in the institute, documented, and built upon. In a business, the opportunity cost is horrific: the thousands of man hours spent could be put to productive use with an existing platform to start from.

So look really hard at what's available in the market. Even if it only partly addresses your needs. And stand on the shoulders of giants.   □

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