



## Creating Technology Talent for the Banking Sector

In a major initiative aimed at meeting the technology manpower requirements of the Banking and Financial Sector, **IDRBT announces the launch of the Post Graduate Programme in Banking Technology Management (PGPBTM)**. This Programme is designed to provide, on a regular basis, a group of talented professionals with technology expertise and managerial excellence to support the technology deployment initiatives of the sector.

With the growing dependence of Banks and Financial Institutions on Technology to deliver satisfactory results, improve efficiency and leverage profitability, the demand for people with expertise in Technology Management is all the more pronounced and urgent. It is precisely to meet this pressing need that the Institute is offering this PGP in Banking Technology Management.

This programme will provide essential learning inputs on technology implementation, integration and management to both the **Practicing Bankers** and the **Directly Selected Candidates** to help them meet the changing requirements of the Sector. It will focus more on Management Issues and Concepts involved in implementing technology than

on the core technology issues themselves. Classes for the programme will commence on **September 01, 2003**.

### What PGPBTM offers to Banks :

- There is a strong demand for techno-savvy leaders in the Banking Sector. The PGPBTM addresses precisely this need.
- PGPBTM will create well-groomed, talented executives for tomorrow who are well-versed with Management of Technology for Banking and Financial Services (BFS).
- Hassle-free Accession Planning by identifying potential leaders every year and grooming them through the PGPBTM.

### What the Students will get:

- A great chance to get the most valuable inputs and learning experience on par with the Best Business Schools in India and abroad.
- Intensive, in-depth exposure to the varied facets of Banking Technology
- Focussed attention for purposeful learning in Management of Banking Technology
- A high level of understanding and expertise in various ways of applying technology for improved productivity and results in BFS.

**Banking Technology Excellence Awards 2003**

IDRBT Banking Technology Excellence Awards for the year 2003 will be given away in the following categories.

- Best Bank Award – Delivery Channels
- Best Bank Award – Business Computerization
- Best Bank Award – Back Office Applications
- Best Branch Award – Techno-Savvy and Customer-Friendly Branch
- Special Branch Award – Techno-Savvy and Customer-Friendly Branch

**The Nomination Forms, containing the broad criteria and inputs for selection, are being sent to the banks.**

## ACADEMICS

- A rigorous regimen, which will make them stand apart in project planning and implementation in technology related areas.
- Managerial mastery over the entire gamut of Banking Technology: Networks and Components, Application Software for BFS, Information Security, IS Audit, Digital Certificates, Electronic Commerce, Payment Systems, Data Warehousing, Data Mining, Business Intelligence and CRM, Technologies for Marketing, Technology Management, IT Planning and Project Management, IT Laws and Cyber Crimes and so on.
- Exposure to exclusive Case Studies on Technology Implementation in various Banks in India and abroad.
- In short, the candidate will become an excellent manager on completion of the course with the unique inputs and exposure he gets in Management and Technology.

### Duration

The Post Graduate Programme in Banking Technology Management is a full-time Regular Programme of One Year Duration spread over 4 Terms of 3 Months each.

### Eligibility

The Programme is open to both the **Direct Candidates** and **Sponsored Candidates** from Banks and Financial Institutions. It will be conducted at IDRBT, Hyderabad, and the selected Bankers will have to be relieved from their duties for the entire duration of the programme. The Eligibility Criteria are as follows:

#### Direct Candidates

- Must be a B.E./B.Tech/B.Sc (Engg) (with First Class or equivalent with 60% Marks) from a recognized University in India or abroad. **Or** M.S/M.Sc/MCA (with First Class or equivalent with 60% Marks) from a recognized University in India or abroad.
- Must be below 30 years of Age as on 1<sup>st</sup> July , 2003.

#### Sponsored candidates from Banks & FIs

- Must be a B.E./B.Tech/B.Sc (Engg) (with First Class or equivalent with 60% Marks) from a recognized University in India or abroad. **Or** M.S/M.Sc/MCA (with First Class or equivalent with 60% Marks) from a recognized University in India or abroad.

- Bankers must have had Branch Banking Exposure for not less than 2 years.
- Others from the Financial Institutions must have had exposure to the basic front office functions (and customer expectations from their organisation) for not less than 2 years.
- Must be below 40 years of Age as on 1<sup>st</sup> July , 2003.

### Admissions

Both Direct Candidates and Sponsored Candidates will be selected through a nation-wide **Entrance Test** to be conducted at **Chennai, Delhi, Hyderabad, Kolkata and Mumbai on July 27, 2003**. Successful candidates will have to go through a Group Discussion and Personal Interview at IDRBT, Hyderabad in August 2003 for final selection. In the case of sponsored candidates, those who have got the necessary approval for pursuing the fulltime programme, from their respective Banks and FIs, will only be allowed to appear for the Interview.

### Placements

As this programme is specifically designed to meet the demands of the Banking and Financial Sector, successful students are assured of placements in the Industry. In fact, we expect the products of this intensive course to be a part of the future Top Management in the Indian Banking and Financial Sector. The Institute will organise placement programmes every year for both M.Tech(IT) and PGPBTM students inviting the prospective employers to the Institute.

### Residential Accommodation

The Institute will provide hostel facility to all candidates of the Full Time PGPBTM. Students will also be able to use the canteen facility at the Institute at reasonable rates.

### Application

The Prospectus and application form for admission to the PGP can be obtained from IDRBT from **June 23 to July 10, 2003** personally or by post by sending a Crossed Demand Draft of Rs 800/- drawn in favour of '**IDRBT, Hyderabad**' to **The Coordinator – PGP**, IDRBT, Castle Hills, Road No. 1, Masab Tank, Hyderabad – 500 057.

The Prospectus and Application form can also be downloaded from our website [www.idrbt.ac.in](http://www.idrbt.ac.in) ■

## Workshop on Technology Initiatives and Challenges for Senior Officers of Public Sector Banks

The theme of this workshop organised on 9<sup>th</sup> and 10<sup>th</sup> of June 2003 was the “Technology Initiatives and Challenges” faced by Nationalised Banks, SBI and Associates. Dr. V.P. Gulati, Director, IDRBT, started off the proceedings with a thought-provoking presentation, wherein he dwelt in detail on the Changing Face of Banking Business, the Technology Initiatives of various Banks, RBI and IDRBT’s Initiatives and the roadmap for a successful future for the Banking Industry. He explained how technology could play a key role in the current scenario in retaining the existing customers. “Banks have to provide services at the fingertips of the customers and it’s only IT that can make it happen,” he stressed.

In the next session on “Financial Network Infrastructure – Update and Issues” Shri N. Rajendran presented the current status as well roadmap for INFINET to meet the growing demand for bandwidth and other related issues like migration to new INSAT 3A from the existing INSAT3B, utilising broadband capabilities of VSAT network by banks, implementation of revised leased line network architecture with upgraded links, security solution implementation at 21 RBI locations of the Network etc

The post-lunch session on “Security and IS Audit” was handled by Dr. A. Saxena and Shri D. P Dube. Dr Saxena stressed on the need for banks to use PKI and cryptographic tools to protect their information assets. Shri Dube rightly emphasised that “Security is a Management Concern” and it is a continuous process rather than a one-time goal.

This was followed by a panel discussion on Delivery Channels. Shri O.P. Srivastava, ICICI Bank; Shri K.R. Kamath, Corporation Bank; Shri C.S. Gopinath, HDFC Bank; and Shri V. Venkatesh, IDRBT were on the panel. The lively presentations and highly interactive discussions brought out the following factors into limelight:

- ATM will soon turn out to be a commodity and cease to be a special product.
- We should tap the huge potential to make ATMs as profit earners by providing value added services.
- Banks will have to keep the advantage and cash in on it, before third parties are allowed to set up ATMs in our country and a regulator comes in.

- Integration of heterogeneous software packages and platforms with the ATMs and other delivery channels is a Herculean task and a great deal of time, money and effort will have to be invested in this to ensure success and survival.
- Quality of Service is as important as the density and reach of the ATM Network to make an impact.
- Once addicted to the ATM facility, the customers may soon be willing even to pay for it.
- Mobile Banking may be the channel of the Future – “Carrying the Bank in Your Pocket!”

The last session on the first day focussed on a back-office automation software called “CRUST” conceived and designed by IDRBT. Shri M. Varadarajan Iyer, gave a demo of this package, which captures all the day’s transactions for onward transmission to the data pooling centre of the bank. Targeted at small and remote branches, having very poor telecom and other infrastructure, in semi-urban and rural areas, the CRUST, a freeware from IDRBT can be easily used by not-so computer literate staff in those branches, he said.

The second day began with the presentation on CA Services by Dr. N.P Dhavale, which highlighted the latest from IDRBT CA services:

- Validity period of the Digital Certificates has been increased to 2 years.
- Banks may go in for a number of Registration Authority Offices within the bank and more than one RA Operator within an RA Office to ensure smooth and interruption-free PKI services.

This was followed by a presentation on Version 2.3 of SFMS, by Shri. R.V.L.N.G.R.Prasad, & the TCS Team.

In the next session, Dr. A.M. Pedgaonkar, CGM, DIT, RBI, spoke at length on RBI initiatives including RTGS. The key issues that emerged include:

- Need of connectivity for all participating branches of the banks
- Banks to become RA and get required Digital Certificates from CA-IDRBT

(Contd. on Page 16)

## Indian Cryptography Comes of Age

Remember the path-breaking discovery, by Prof. Manindra Agrawal and his two students Nitin Saxena and Neeraj Kayal from IIT Kanpur, which hit the headlines in August 2002? They came out with a polynomial time deterministic algorithm to test if an input number is prime or not. Lots of people have been looking for centuries for a polynomial time test for primality, and this result is a major breakthrough.

Prime Numbers play a key role in cryptography and devising faster ways to identify them takes cryptography to greater heights. To continue the surge in interest in cryptography, IDRBT in association with the Cryptographic Research Society of India organised the Third International Conference on Cryptology – INDOCRYPT 2002 in Hyderabad from December 16-18, 2002.



R. Chidambaram, Principal Scientific Adviser, Govt. of India (centre) flanked by V.P. Gulati, Director, IDRBT (to his right) and Ashutosh Saxena, Alfred Menezes and Palash Sarkar at the inauguration of INDOCRYPT 2002

Dr. R. Chidambaram, Principal Scientific Adviser, Govt of India and DAE-Homi Bhabha Professor, inaugurated the conference. Delivering his inaugural address, Dr. Chidambaram said that such conferences prove India's maturity in the field of Information Technology. Expressing happiness on the contribution of premier Institutes such as Indian Statistical Institute, Indian Institutes of Technology and the IDRBT, he stressed that the country should move fast towards creating an atmosphere of confidence where e-transactions become the norm of the day.

"India is one of the very few countries to have an IT Act in place and we should identify and remove the remaining legal hurdles to get a headstart," he advocated. "The sign language has always been there but it hasn't developed enough to provide secure communication in the era of technology, where fast and secure communication is the key to success. Sciences like the cryptography, with its focus on encryption and decryption need to be encouraged and widely used in this emerging technology scenario," he added.

The conference provided a high quality forum for researchers, scientists, and academicians for presenting their latest research findings in the rapidly evolving field of Cryptology. It also marked the acceptance of the INDOCRYPT by the International Crypto-Research Community as a forum for discussing quality research.

The conference included various technical sessions devoted to contributed papers, invited talks and tutorials. The authors of the papers submitted were spread across 21 countries and four continents, which amply demonstrates the international interest and visibility of INDOCRYPT 2002.

This was only the third INDOCRYPT and in the previous two conferences, the submissions from India originated from only two Institutes, but with this conference, INDOCRYPT is well on its way to achieving its two main objectives – to provide an international platform for presenting quality research and to stimulate Cryptography research in India. There were 75 submissions, out of which one was withdrawn and 31 were accepted.

Vincent Rijmen of AES fame started off the proceedings with his presentation on the *Security of a Wide Trail Design* which focused on the design strategy for the recently accepted AES standard - Rijndael. Chaired by Alfred Menezes, University of Waterloo, the inaugural session on **New Public Key Schemes** also included presentations on *A Variant of NTRU with Non-Invertible Polynomials* and *Tree Replacement and Public Key Cryptosystem*.



Vincent Rijmen, Graz University of Technology, Austria, delivering the invited talk on *Security of a Wide Trail Design*

The post-lunch session, chaired by C.E Veni Madhavan, Indian Institute of Science, deliberated on **Symmetric Ciphers**. Three papers on *A New Class of Stream Ciphers Combining LFSR and FCSR Architectures*, *Slide Attack on Spectr H-64*, and *On Differential Properties of Pseudo-Hadamard Transform and Related Mappings* were presented in this session.

Two papers, *Never Trust Victor: An Alternative Resettable Zero-knowledge Proof System* and *Asynchronous Unconditionally Secure Computation: An Efficiency Improvement* were presented in the following session on **Foundations**, which was chaired by Vincent Rijmen, Graz University of Technology, Austria.

The final session of the inaugural day, on **Public Key Infrastructures**, saw the presentations on *QPKI: A QoS Based Architecture for PKI* and *Towards Logically and Physically Secure Public Key Infrastructures*. This session was chaired by Subhamoy Maitra, Indian Statistical Institute.

**Fingerprinting and Watermarking** was the area of deliberation for the first session of the second day of the conference. Chaired by R. Balasubramaniam, Institute of Mathematical Sciences, the session deliberated on *Cryptanalysis of Optimal Differential Energy Watermarking and a Modified Robust Scheme*, *A 2-Secure Code with Efficient Tracing Algorithm*, and *Reed Solomon Codes for Digital Fingerprinting*. This paper was authored by V. Ravi Sankar, Ashutosh Saxena and V.P. Gulati of IDRBT.

The session on **Anonymity**, chaired by C. Pandu Rangan, Indian Institute of Technology, Chennai, discussed *The Security of a Mix-Center Based on a Semantically Secure Cryptosystem* and *New Identity Escrow Scheme for Anonymity Authentication*.

The session on **Boolean Functions** included presentations on *Construction of Cryptographically Important Boolean Functions*, *Evolving Boolean Functions Satisfying Multiple Criteria* and *Further Results related to Generalized Non-Linearity* and in the session on **Public Key Protocols**, papers were presented on *A Note on the Malleability of the El Gamal Cryptosystem*, *Authentication of Concast Communication*, *Self-Certified Signatures* and *Identity Based Authenticated Group Key Agreement Protocol*. While the session on **Boolean Functions** was chaired by Bimal Roy, Indian Statistical Institute, the session on **Public Key Protocols** was chaired by Ashutosh Saxena, IDRBT.



Delegates from foreign countries are all ears during the three-day International Conference

The session on **Efficient and Secure Implementations**, which included three presentations – *Modular Multiplication in  $GF(p^k)$  Using Lagrange Representation*, *Speeding up the Scalar Multiplication in the Jacobians of Hyperelliptic Curves using Frobenius Map* and *Improved Elliptic Curve Multiplication Methods Resistant against Side Channel Attacks*, brought down the curtains on the second day of the Conference. Rana Barua, Indian Statistical Institute, chaired this session.

The final day of the Conference started off with the Invited Talk on *Primes is in P*, delivered by Nitin Saxena, IIT Kanpur. This was followed by the session on **Secret Sharing**

## INDOCRYPT 2002



A section of the foreign delegates participating in the deliberations during INDOCRYPT 2002

**and Oblivious Transfer**, which was presided over by Jennifer Seberry, University of Wollongong. *On Distributed Key Distribution Centers and Unconditionally Secure Proactive Verifiable Secret Sharing Schemes Based On General Access Structure, On Unconditionally Secure Distributed Oblivious Transfer and Non-Perfect Secret Sharing Over General Access Structures* were the papers presented in this session.

And the final session of the Conference was on **Applications**. Presided over by Ravi Mukkamala, Old Dominion University, the session had four papers: *The Design and Implementation of Improved Secure Cookies Based on Certificate, A Certified E-Mail System with Receiver's Selective Usage of Delivery Authority, Spending Offline Divisible Coins with Combining Capability and Efficient Object-based Stream Authentication*.

**TUTORIALS:** This three-day conference was preceded by a two-day tutorial on December 14-15, 2002. Since penetration of Cryptology in India isn't deep and widespread, a 1/2-day tutorial has always been an integral part of INDOCRYPT. The tutorials provided a good opportunity to get to know some of the current theoretical/applied areas of the subject and set the tone for the conference.

The tutorial on **Network Security Primer** by Brett Howard, Alcatel, Canada, provided a high-level view of the applications of the security concepts as they pertain to digital networks. One of the key issues discussed threadbare was authentication and authorization.

The second tutorial was on **Constructive Applications of the Weil and Tate Pairings** by Alfred Menezes, University of Waterloo, which focused on the various innovative cryptographic applications of bilinear pairings including the one-round tripartite Diffie-Hellman key exchange protocol of Joux, the identity-based public-key encryption scheme of Boneh and Franklin, and a signature scheme with short signatures proposed by Boneh, Lynn and Shacham.

Delegates from many foreign countries including Kuwait, Sweden, France, Korea, China, Germany, Belgium, USA, Australia, Japan, Singapore, Canada, Austria, Finland, Iraq and Turkey participated in the Conference.

The Conference also included a variety of social events. Ghazals livened up the Conference Dinner and the trip to the 'Rajasthani Village' Dhola-ri-Dani, where the delegates were treated to a colourful range of folk items and the traditional chowki dinner, was highly appreciated.

The Institute acknowledges the support of the sponsors, which played a major part in making this conference a success. ■

### Euros may get Digital ID tags to prevent counterfeiting

The European Central Bank (ECB) is thinking of embedding radio tags in euro bank notes, according to Japanese news agency Kyodo. The ECB is looking at the possibility of embedding the world's smallest integrated circuit, developed by Hitachi, into notes to prevent counterfeiting of euros.

Hitachi's website [www.hitachi-eu.com](http://www.hitachi-eu.com) describes a 0.4-mm by 0.4-mm by 60-micron radio frequency identification chip, called the Mu Chip, that works in the 2.45-GHz frequency band and has a 128-bit ROM for storing its identity number. Though it was originally conceived as a bank-note-tracking device it could also be used in passports, driving licenses and other official documents, the report said

(Source: IDG News Service)

## Certificate Course in Enterprise Networking Technologies and Security [CENTS]

CENTS, the first Certificate Course offered by the Institute, was specifically designed to address the demand from Banks and Financial Institutions for extensive and in-depth training courses, which would train a select group of participants stage by stage, thereby ingraining in them the expertise to meet the specific technology needs of their banks.



Divided into two modules of ten days each, and spread over a period of two months, the course relied predominantly on hands-on exercises and provided detailed inputs on Networking Security Essentials, Protecting the Enterprise Network, PKI Technologies, Application Information Security, Auditing, Backup and Disaster Recovery. Participants also executed a project during the intervening period between the two modules. This course was conducted from Nov 07-16 & Dec 19-28, 2002.

Based on the inputs gathered from the participants of the course and from the feedback received from the Banks and the Financial Institutions, the CENTS has since been modified into a single-module twelve-day course. The second CENTS was conducted at the Institute from April 21-May 02, 2003. Executives from various banks such as



Punjab National Bank, Syndicate Bank, Allahabad Bank, Canara Bank, State Bank of India and ING Vysya Bank Ltd participated in the course. Both these certificate courses were coordinated by Ms V. Radha, Faculty, IDRBT.

## Seminar on Intellectual Property Management for IT Enabled Services

Focusing on the emerging critical area of Intellectual Property Management for IT enabled services, this one-day Seminar organised on January 01, 2003, deliberated on issues such as Intellectual Property Identification, Securing Ownership, Patents for Software Related Inventions, and Patents and Bioinformatics.



Dr. V.P. Gulati inaugurating the seminar in the presence of (left to right) V. Visweswar, Donald Bollela and Manoj Pillai

Experts such as Donald Bollela, Principal, DB Consulting, USA, and Manoj Pillai, M/s. Lex Orbis presented their views in this seminar, which also included a highly interactive session. Executives from various Banks and Financial Institutions participated in this seminar coordinated by Shri V. Visweswar, Faculty, IDRBT.

## Data Warehousing and Data Mining

A six-day programme on Data Warehousing and Data Mining was held at the Institute from January 06-11, 2003. Various issues related to Data Warehousing and Data Mining such as ETL, OLAP, CDBMS, Association Rules and Clustering, Decision Tree, DBD Miner and Analytical CRM were discussed. The programme laid special focus on extensive hands-on sessions, case studies and demonstration of various tools.

## PROGRAMMES



This programme was co-ordinated by Smt. T.K. Srivani, Faculty, IDRBT.

### Leveraging Linux for Banks and Financial Institutions

This programme, organized from January 20- 25, 2003, was the first programme on Linux organized by the Institute, and was of special significance since Banks and Financial Institutions have begun exploring the huge potential of the Linux Platform.



Apart from providing extensive hands-on experience, the programme deliberated on issues such as Linux Overview, Linux Network, Linux Security, Linux Gateway, Secure Linux Installation, Bash Tips and Tricks, Shell Programming, Working of Web Server, KNOPIX etc.

The programme was coordinated by Shri M.V Iyer, Faculty, IDRBT.

### Conference on Control Objectives for Information & Related Technologies (COBIT)

A two-day Conference on Control Objectives for Information & Related Technologies (COBIT) was held at the Institute to explain the needs, benefits and the

ways and means for effective implementation of COBIT in the Indian Banking and Financial Sector.

Concepts of Control and Introduction to COBIT, Control Objectives, COBIT Navigation and Importance to Banking, COBIT Audit Guidelines and Management Guidelines were some of the issues discussed.

Shri D.P.Dube, Faculty, IDRBT, co-ordinated this conference, held on January 27 – 28, 2003.



### Networking Technologies

This six-day programme on Networking Technologies introduced various concepts and tools for building Corporate Networks, provided a broad overview of the technology infrastructure required, explained the technology of networking and communication equipments, and also imparted the technicalities of troubleshooting.

Executives from the Information Technology Division of Public and Private Sector Banks including Canara Bank, Corporation Bank, Punjab National Bank, Syndicate Bank, Jammu and Kashmir Bank, Vijaya Bank, ING Vysya Bank Ltd etc participated in this programme held from February 03-08, 2003.



This programme was co-ordinated by Shri N. Rajendran, Faculty, IDRBT.

### Workshops on Digital Certificate Procedures and SFMS Implementation

Four Workshops on Digital Certificate Procedures and SFMS Implementation for Banks were organized at the Institute from Feb 04-06, 2003, Feb 18-20, 2003, March 04-06, 2003 and May 20-22, 2003.



These Workshops aimed at training the bankers on the functioning of IDRBT Certifying Authority, Banks' Registration Authority, Public Key Infrastructure, Digital Certificates, applying and receiving Digital Certificates and Using them in different Banking Applications such as Structured Financial Messaging Solution etc.



While the first, third and the fourth workshops were co-ordinated by Dr. N.P.Dhavale, the second was coordinated jointly by Shri A. P. Raja and Dr. N.P.Dhavale, Faculty, IDRBT.

### Digital Certificates for State Bank of India

The Institute conducted two Customised Programmes on Digital Certificates for the State Bank of India on March 11-12, 2003 and March 25-26, 2003.

Public Key Infrastructure, IDRBT Certifying Authority Services, Registration Authority Functions, SFMS and Smart



Cards were some of the topics deliberated upon. The programmes also included extensive hands-on and demonstration sessions.

The first programme was coordinated by Dr. N.P. Dhavale and Shri A.P. Raja and the second programme was coordinated by Dr. N.P. Dhavale, Faculty, IDRBT.

### Technology Audit for Banks

A six-day programme on Technology Audit for Banks, the first-of-its-kind organised by the Institute, was held from April 07-12, 2003.

Right from providing an Introduction to Technology Audit, Information Security, Access Control Techniques, Operating Systems Controls and Audit, Enterprise Network Architecture, Network Management and Audit, DBMS Concepts and Security, Application Control Framework to Security and Controls in Linux Operating System, the programme helped prepare long-term strategy for auditing core technology.



Officials from the IT/Audit/Security Departments of various Banks and Financial Institutions participated in this programme, which was co-ordinated by Shri D.P. Dube, Faculty, IDRBT.

## PROGRAMMES

### Networking Technologies for Syndicate Bank

This Customised Programme on Networking Technologies was exclusively held for the Syndicate Bank from April 14-19, 2003.



The programme aimed at disseminating knowledge, which would come in handy for designing, managing and securely operating the bank's networks. Network Devices, Hub, Switch, Cables, Modems, Routers, VSAT Technology, IP Address System, Networking Protocols, Routing Protocols, Configuring ISDN/PSTN Networks, RIP / OSPF, VOIP, Deploying Linux on Networking, SFMS, Firewall, IDS, PKI and Network Penetration were some of the issues deliberated upon.

Twenty participants from various branches of Syndicate Bank participated in this programme, co-ordinated by Shri D.P. Dube, Faculty, IDRBT.

### Electronic Banking and Payments

This programme was organized at the Institute from April 21- 26, 2003 for IT professionals and policy-makers of various Banks and Financial Institutions in the country.

Issues that were put under the scanner during the programme include the issues and challenges to Electronic Banking, Commerce and Payment Systems with a specific focus on topics such as Financial Networks, EDI & XML, Information Security, BCP/DRP, Message Formats, Smart Cards, Information System Audit and Risk in Electronic Banking. Implementation experiences in the field of Electronic Commerce were discussed and participants were also provided hands-on experience on various Electronic Payment System products.



This programme was coordinated by Shri A. R. Dani, Faculty, IDRBT.

### Software Engineering for Banking and Financial Applications

Introducing the current trends in Software Engineering, this programme attempted at familiarizing the participants with the current developments of Software Development Life Cycle (SDLC), starting from requirement analysis to implementation and re-engineering.

SDLC and Design Methodology, Project Planning and Resource Management, UML, Software Standards, Centralised Data Centres, Software Architecture, Core Banking Software and Implementation Issues, Outsourcing, and Software Risks and Controls were some of issues deliberated upon.



Dr. V. N. Sastry, Faculty, IDRBT, coordinated this three-day programme held from May 19-21, 2003.

### Revamped Website of the Institute

The Institute launched the revamped version of its website: [www.idrbt.ac.in](http://www.idrbt.ac.in) recently. The content of the site has been revised, new utilities added, and the look and feel of the site changed to make it more useful. We invite you to check it out and key in your valuable feedback online to help us make it better.

## Framing Security Policy for Banks

Shri K. K. Chattopadhyay, CGM, SBI, Hyderabad, inaugurated this three-day programme, held at the Institute from May 28-30, 2003. He set the ball rolling by stressing on the importance of information security, especially in a scenario where branches are getting networked and the sector is banking on technology to offer the best to the customers.



Information Security Network, IS Standard and Procedures, COBIT, Information Security Management Architecture, BS 7799, Network Security Policy and Password, E-mail, Internet Usage and Incident Handling Policy were some the topics deliberated upon during the programme. The programme was co-ordinated by Shri D.P. Dube, Faculty, IDRBT. ■

## M.Tech. IT - Banking Technology & Information Security

The Institute's M.Tech. Programme in Information Technology (with specialization in Banking Technology and Information Security), a collaborative programme with University of Hyderabad, is progressing smoothly. The programme is now of two-year duration instead of the earlier one-and-a-half years. While the first two semesters are dedicated to course work, in the last two semesters the students undertake a project work in the areas related to Banking Technology, Networking and Security Technologies.

We facilitated placements for the first batch of graduating M.Tech. students and all of them have been placed in reputed organisations such as the Reserve Bank of India, Clearing Corporation of India Limited and Export Import Bank of India. Meanwhile, the second batch of the students has completed their course work and is now pursuing project work in various focal areas of the Banking industry such as SFMS, Business Intelligence, Financial Networks, Risk Management, Security Technologies etc.

The admissions to the third batch of the M.Tech Programme is in progress and from this batch onwards valid GATE score is a compulsory criterion. The M.Tech. Programme has 25 seats, out of which five seats are reserved for the sponsored candidates from the Banking and

Financial Sector. Such sponsored candidates should have three years of relevant experience apart from fulfilling the other academic qualifications. However, they are exempted from qualifying in GATE and they may also be exempted from the written test.

***Banks and Financial Institutions interested in sponsoring candidates for the programme may write to the Institute. The Institute will follow it up with the University of Hyderabad. Since the course will commence on July 26, Banks and Financial Institutions may nominate sponsored candidates at the earliest.***

We are also introducing a wide variety of industry-oriented electives such as Information System Audit, Delivery Channels, Core Banking etc in the M.Tech. course to keep the students abreast of the latest happenings and emerging focal areas of the sector.

The Institute provides scholarship at par with the GATE to the non-sponsored candidates. The course starts off with an orientation programme on Basic Banking and Business Communication and the students also participate in the various executive development programmes/seminars/conferences on the latest technologies organized by the Institute from time to time. ■

## INFINET Update

### New Network Architecture

A new network design for the INFINET Leased Line Network is being implemented as per the recommendations of the Standing Technical Evaluation Committee. Since most of the RBI Application Servers used for Inter-Bank transactions are located in Mumbai and Hyderabad, these two centres have been linked through 8 Mbps OFC link and since Delhi is the Disaster Recovery Site for the CA servers, the Link between Hyderabad and Delhi is also proposed to be upgraded to 8 Mbps. All other centres too have been provided with links to Hyderabad and Mumbai.

The Institute is also considering redundancy at the router level (through 2 routers at each of the locations to meet the overall requirements of performance, high availability, load sharing and fault tolerance) for INFINET connectivity while enhancing bandwidth redundancy and at the same time improving management and operational efficiency.

IDRBT has already obtained network approval from BSNL for the new network design for INFINET Leased Line Network. The upgradation/provision of new links is expected to be completed by July 15, 2003.

The Institute is implementing Security Solution at all the RBI offices across the country. This solution includes deployment of Firewalls, IDS and VPN Concentrator at RBI offices keeping in view the critical nature of financial applications running on the network.

In order to provide hands-on experience to the Banking and Financial Sector on the deployment of Network Equipment over WAN, IDRBT has set up a Network Lab. Professionals from Banks/Financial Institutions can now avail training at IDRBT on deployment, configuration & set up and also simulate scenarios, which they need to set up at their remote end.

### Implementation of Broadband Network

The INFINET network, which is now a hybrid of VSAT and terrestrial communications technology, is a Closed User Group network covering the entire financial sector of the country. The Network now has over 2000 TDM/

TDMA VSAT's, 17 PAMA VSAT's and is spread over 300 cities. Another 400 VSAT's are expected to be commissioned in the next three months.

Various intra-bank applications including funds transfer, inter-branch reconciliation and ATM networks are operational on the network. Inter-bank applications such as PDO-NDS are also operational on the network. Continuous technical and capacity upgradation is being done on the INFINET to ensure state-of-the-art communication infrastructure to meet the growing demands of the banking and financial sector.

Commissioning of Broadband Network (broadband outroute of 2 Mbps and 20 inroutes of 256 Kbps) is already completed and the broadband implementation in banks is in progress. Approximately 1000 of the existing remote VSAT's can be upgraded to 256 Kbps inroute and the rest of the remote VSAT's may have to be configured on existing 128 Kbps inroutes.

The Broadband outroute of 2 Mbps can be shared by all the three ISBN networks. The remote VSAT's configured in any network can avail the broadband outroute of 2 Mbps by adding a Brighton box with the present TDM/TDMA VSAT at remote location. The Broadband outroute is further scalable up to 24 Mbps

With the Inroute upgradation, 20 inroutes of 256 kbps and 28 inroutes of 128 kbps would be available and the Broadband can be extended to the remote VSAT users through inroutes of 128 Kbps and 256 kbps, based upon the requirement at the remote end with the existing hardware itself.

The ISRO has allotted one coordinated transponder (No.14) on the INSAT 3A for the INFINET operations and the operations will be shifted on to the new satellite by August 15, 2003. IDRBT is also in the process of signing Captive VSAT License Agreement under New Telecom Policy (NTP) – 99. Under this agreement, the license will be valid for a period of 20 years and higher data rates above 512 Kbps will be allowed. The agreement is likely to be in place by July 15, 2003. ■

## IDRBT Wins Computerworld Honors Laureates' Medal 2003

IDRBT made history by launching the INdian Financial NETwork (INFINET), a nation-wide communication backbone, for the Banks and Financial Institutions in India. The INFINET is a Closed User Group for the Banking and Financial Sector. Commissioned on June 19, 1999, INFINET now has over 2000 Very Small Aperture Terminals (VSATs) in 300 locations including major cities and important towns across the country and a Leased Line Network [LLN] connecting 21 major cities.

IDRBT has won the Computerworld Honors Laureates' Medal 2003 for Innovativeness in Development and Management of INdian Financial NETwork [INFINET]. Mr. Daniel S. Morrow, Executive Director, Centre for Innovative Technology, Virginia, USA, presented the award on April 18, 2003.

This award is yet another confirmation of the path-breaking technology initiatives taken by IDRBT to further the pace of technology adoption and absorption in Banks and Financial Institutions in India.



Daniel S. Morrow, Executive Director, Centre for Innovative Technology, Virginia, USA presenting the Medal which was received on behalf of the Institute by V. Visweswarar.

The Computerworld Honors Program, instituted in 1990, by the Center for Innovative Technology, Herndon, Virginia, recognizes and awards those organizations, whose use of Information Technology has been especially noteworthy for the originality of its conception, the breadth of its vision, significance of its benefit to the society and contribution to the Global Information Technology Revolution. ■

### PGPBTM - Dates to Remember

Last date for Issue of Applications	July 10, 2003
Last date for Receipt of Applications	July 12, 2003
Written Test at 5 Centres	July 27, 2003
Personal Interviews (GDPI)	Aug.18-20, 2003
Declaration of Final Results	Aug. 22, 2003
Registration & Admission	Aug. 29, 2003
<b>Commencement of Classes</b>	<b>Sept. 1, 2003</b>

### Online Bill Payment Catches on

Online bill payment increased sharply during the first three months of 2003, according to NACHA - the Electronic Payments Association, continuing a trend experienced throughout 2002. NACHA estimates that the dollar amount of online bill payments may exceed \$200 billion in 2003.

"Online bill payment is now a mainstream consumer activity," said Elliott C. McEntee, President and Chief Executive Officer of NACHA. "Tens of millions of consumers now pay bills online, and the potential for continuing growth is substantial."

During the first quarter of 2003, NACHA estimates that more than \$48 billion in online bill payments were made in which the Automated Clearing House (ACH) Network system was used. That figure is half of the amount of \$96 billion for all of 2002. At the current growth rate, the amount would exceed \$200 billion for the year 2003.

Consumers can pay bills online at their financial institutions' websites, at billing companies' websites, through third-party bill payment services, and through some personal financial management software packages. The benefits include the convenience of doing your banking and paying your bills whenever you want, better control over your finances, and the savings from eliminating postage costs.

(Source: creditcollectionsworld.com)

## IDRBT Certifying Authority

The IDRBT Certifying Authority, since its inception on August 08, 2002, has issued over 2000 Digital Certificates, which include Class 1, Class 2 and Class 3 Certificates for servers and individuals. These Digital Certificates issued by IDRBT CA are legally valid as per the IT Act 2000 and Digital Signatures are acceptable in Indian Courts on par with paper signatures.

Banks and Financial Institutions are making use of these certificates for PKI-enabling of applications such as Corporate E-mail, SFMS and Settlement Applications of Clearing Corporation of India Ltd.

For PKI-enabling of Banks' Corporate E-mail, the bank's officers have to apply (for Class 1 Signing Certificate and Class 1 Encryption Certificate) to IDRBT CA through their bank's Registration Authority. The certificates are issued in the name of the officer and are valid for the e-mail ID furnished at the time of application. In cases, where an officer has more than one e-mail ID (not aliases), for every e-mail ID, a distinct certificate pair (signing and encryption) needs to be obtained. After getting the required certificates, it would be possible to send signed and/or encrypted e-mails. When not necessary, the feature can be switched off so that normal e-mails (without signature and without encryption) can also be sent.

The process of the changeover of old certificates being used in PDO-NDS system to IDRBTCA licensed certificates is complete and the NDS system is running on the new certificate set up since April 16, 2003. The Digital Certificates issued by IDRBT CA include Webserver Certificates for Internet Banking websites. However, since the root certificates of CCA and IDRBTCA are not pre-installed in the web browser an option for

the download of the certificates is to be provided at the banks' Internet Banking site.

The Real Time Gross Settlement System (RTGS) is being implemented by the Reserve Bank of India and is expected to be operational in the latter part of this year. RTGS is a PKI-enabled application and Digital Certificates for servers as well as for officers will be necessary in banks for using RTGS. The RBI has instructed banks and financial institutions participating in RTGS to get their infrastructure ready for obtaining Digital Certificates. This includes setting up of Registration Authority office (if not in place already) for bigger banks/FIs, or getting certificates through IDRBT Registration Authority (RA) Office when the number of certificates required are very few. Banks requiring less than 10 certificates need not set up their own RA Office and may obtain certificates through IDRBT RA office as per the instructions of Reserve Bank of India.

IDRBT CA has created 51 RA Offices till June 06, 2003, which includes 24 Public Sector Banks, Seven Private Sector Banks and One Financial Institution. Sixteen RA Offices were created for the State Bank of India, and their RAs underwent customised training on the various activities of Registration Authorities.

The Institute proposes to integrate PKI for the Bhoomi Project of Government of Karnataka. This includes the Integration of the Bhoomi software with Application Programme Interfaces (APIs) for Digital Signatures and Encryption in order to achieve Straight Through Processing.

The Disaster Recovery Site for PKI/CA is being set up at NIC, New Delhi. Preliminary studies on Network Connectivity and System requirements are complete and DRS plan is in advanced stage of implementation. ■

## Structured Financial Messaging System (SFMS)

The latest version SFMS, Version 2.3, has been released for deployment. The salient features of this version are:

- The Gateway and Branch Server Modules are combined in one server. This helps the banks save on hardware, implementation costs and overheads.
- The software has been substantially improved in several respects by taking all the requirements and suggestions of banks into account. Thus, the latest version is more comprehensive and suitable to meet the specific needs of banks.
- The proliferation of IFSC Codes on new SFMS Branches is centralized at the HUB and automatically communicated to the Gateways and Offline Branches. This facility helps banks in streamlining the implementation process.
- The software provides for auto installation of third party products and SFMS module in Offline Server. Similarly, the auto installation of SFMS Branch Server Module is also available. With this, time taken by banks for installation in branches will get reduced drastically .
- SFT (Secure File Transfer) is now a part of SFMS software. This utility permits banks to transfer ASCII files in a secured manner.
- The software provides for archival of messages at every node. This feature would be highly useful for utilizing the data for MIS and reconciliation.

### BE READY WITH SFMS BEFORE RTGS KNOCKS ON YOUR DOOR

Real Time Gross Settlement System (RTGS) being launched by RBI shortly will be using SFMS as the messaging backbone. Therefore, banks which are yet to implement SFMS will have to take immediate steps to get their act together, to get onto the SFMS bandwagon, by identifying branches, applications etc.

**And, RTGS package is due for delivery to banks in October 2003 and banks are expected to go live on RTGS in January 2004.**

The new SFMS software has been installed in 9 banks viz., Bank of Maharashtra, Canara Bank, Indian Overseas Bank, Punjab National Bank, State Bank of Bikaner & Jaipur, State Bank of Hyderabad, State Bank of Mysore, United Bank of India, and Vijaya Bank. In some banks, the common Gateway-cum-Branch Server (CGBS) is provided. The installation in 11 other banks, Reserve Bank of India and Clearing Corporation of India Ltd., will be taken up shortly.

Most of the Public Sector Banks have created Registration Authority Offices and started issuing IDRBT CA Digital Certificates, which is a pre-requisite for implementing SFMS and various other RBI applications (including RTGS). Since the banks are yet to streamline their own internal procedures for issue and management of Digital Certificates, a facilitation booklet has been distributed to the banks on 10<sup>th</sup> June 2003, in the Senior Officers' Workshop held at IDRBT. ■

## TIME TO MAKE THE MOVE

Do you do just about everything to make your classes a hit? Do your students eagerly await your lectures? Are you a domain expert in computers and related areas or a Banker who has sufficient exposure to teaching, training and technology? Are you interested in research in technology that affects everyday life through banking and financial services? Then it's time for you to move on to IDRBT, which provides you the perfect platform. Join us as Professor, Associate Professor, Assistant Professor, a Visiting Faculty or Faculty on deputation.

Get connected to our website [www.idrbt.ac.in](http://www.idrbt.ac.in) for details and send in your application to The Director, IDRBT or just mail it to [recruit2003@idrbt.ac.in](mailto:recruit2003@idrbt.ac.in) at the earliest.

## Technology Initiatives and Challenges for Public Sector Banks

(Contd. from Page 3)



### IDRBT Congratulates Smt Udeshi

Smt. K.J. Udeshi, Executive Director, RBI and Member of the IDRBT Governing Council took charge as the First Woman Deputy Governor of RBI on 10th June, 2003. IDRBT wishes her all success in her new assignment!

- Specifically with RTGS, need for integration with Back-Office Systems/Treasury Office/Core Banking System, Liquidity Management System

This was followed by a Panel Discussion on Core Banking. The panel members were Shri S. K. Awasthi, PNB; Shri Ashok Kini, SBI; Shri B. S. Murthy, Syndicate Bank; Shri V. Venkatesh, IDRBT and Dr V.P. Gulati, IDRBT.

The discussions were extremely interesting and down-to-earth and a learning experience for many bankers, particularly those planning to get into it. The salient points that came through the discussions are:

- The need to face Business Process Reengineering problems squarely
- Changing the mindset at all levels and the need to reinvent the organisation

- Planning for extensive training needs
- Issues of owning, sharing or outsourcing Data Centre and Services
- The urgent need for updating and refining the quality of customer data available and to be captured
- Core Banking is not an end in itself but only a means and to be precise a sizeable chunk in the jigsaw puzzle of IT planning and management for banks.
- Vendor management, Software selection and Application interface issues.

**As a fitting finale to the two-day deliberations, Dr. Gulati outlined, in his concluding session, a proposal for a National ATM Switch/Payment Gateway for all electronic payments. This proposal received an overwhelming response and he announced that IDRBT will take steps to make it a reality very soon.**

**The workshop ended on a note of high optimism that banks which already have (or propose to have) a nation-wide network of customer interface devices (like ATMs and POS Terminals), will reap the full benefits in terms of better revenues and those who cannot afford to set up a big network on their own will get the much-needed leverage of using the nation-wide networks of all the other banks at an extremely low cost. In the process, the Customer will become the Monarch of all he surveys, with the ultimate freedom to use any ATM or POS Terminal anywhere to access his bank accounts.**

## Programme Calendar 2003-2004

2003	Programme
July 02-03	Encryption and Certifying Authorities
Aug. 12-13	Introduction to LINUX Open Source Technologies
Aug. 25-27	Software Engineering for Banks
Sept. 15-17	Implementing Application Development using LAMP (Linux + Apache + My SQL + PHP)
Sept. 22-27	Emerging Decision Technologies and Application to Banking and Financial Sector (EDTABFS-2003)
Oct. 07-08	Implementing Intranet and Corporate Mail on Linux
Nov. 03-08	Data Warehousing and Data Mining
Nov. 10-21	Certificate Course in Enterprise Network Technologies & Security (CENTS)
Nov. 17-21	Payment Systems and Security Technology
Nov. 24-25	Principals' Conference on Technology Based Training
Dec. 01-06	Information System Audit

2003-2004	Programme
Dec. 09-11	Secure Electronic Funds Transfer
Dec. 10-12	Technology Based Bank Frauds and Prevention
Dec. 15-20	Faculty Development for E-Learning in Banks
Jan. 20-22	Seminar on Intellectual Property Rights & Cyber Laws
Feb. 02-13	Certificate Course in Enterprise Network Technologies & Security (CENTS)
Feb. 17-18	Open Source Options for the Banking Industry
Apr. 12-17	Software Engineering for Banking and Financial Applications
Apr. 19-24	Technology Audit for Banks
May 31 to June 05	Framing Security Policy for Banks
June 14-15	Business Continuity & Disaster Recovery Plans

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