

### Top Level Changes in the Governing Council of IDRBT

#### IDRBT Welcomes Shri Vepa Kamesam



Shri Vepa Kamesam assumed office as Deputy Governor, Reserve Bank of India on 1<sup>st</sup> July 2001 and simultaneously became the Chairman of the Governing Council of IDRBT, *ex officio*. Shri Vepa Kamesam

brings with him rich and varied experience in the banking domain, from his service in the State Bank of India for over three decades. He was a Managing Director of SBI, prior to his elevation as Deputy Governor, RBI.

**IDRBT welcomes him and expects to benefit greatly from his leadership and administrative acumen arising out of a long and impressive career in commercial banking.**

#### IDRBT Thanks Shri S.P. Talwar



Shri S.P. Talwar, Deputy Governor of RBI and *ex officio* Chairman of the Governing Council of IDRBT, relinquished office on the 30<sup>th</sup> June 2001. Shri Talwar was a Senior Member of the Governing Council(GC) of IDRBT, right from its early days and later became the Chairman of the GC, when the Governor of RBI became the Visitor to the Institute.

IDRBT fondly recalls the sense of purpose and direction provided by Shri Talwar through the crucial formative years of the Institute and places on record its sincere gratitude for his valuable contribution to the development of Banking Technology in general and growth of IDRBT in particular.

**IDRBT wishes him success, prosperity and satisfaction in all his endeavours.**

### Governing Council of IDRBT

<b>Dr. Bimal Jalan</b>	<b>Visitor</b>	<b>Governor, Reserve Bank of India</b>
<b>Shri Vepa Kamesam</b>	<b>Chairman</b>	<b>Deputy Governor, Reserve Bank of India</b>
<b>Shri Janki Ballabh</b>	<b>Member</b>	<b>Chairman, State Bank of India</b>
<b>Dr. Dalbir Singh</b>	<b>Member</b>	<b>Chairman, Indian Banks' Association</b>
<b>Dr. R.B. Barman</b>	<b>Member</b>	<b>Executive Director, Reserve Bank of India</b>
<b>Shri Mohd. Tahir</b>	<b>Member</b>	<b>Executive Director, Reserve Bank of India</b>
<b>Prof. D.B. Phatak</b>	<b>Member</b>	<b>Subrao Nilekani Chair &amp; Head, Kanwal Rekhi School of Information Technology, IIT, Mumbai</b>
<b>Shri S.S. Ghosh</b>	<b>Member</b>	<b>Managing Director, CMC Ltd</b>
<b>Prof. A.K. Pujari</b>	<b>Member</b>	<b>Dept. of Computer and Information Sciences, University of Hyderabad</b>
<b>Dr. V.P. Gulati</b>	<b>Secretary</b>	<b>Director, IDRBT</b>

### Institute for Development and Research in Banking Technology

(Established by Reserve Bank of India)

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# FAST FORWARD

## NEWSLETTER

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**Institute for Development and Research in Banking Technology**  
(Established by Reserve Bank of India)

### M. Tech in Information Technology Launched

Dr. Y.V. Reddy, Deputy Governor, Reserve Bank of India, inaugurated the M.Tech course in Information Technology, devoted to Banking Technology and Information Security on September 05, 2001.

Delivering the inaugural address, Dr Reddy said that this course is the first of its kind in India and perhaps in the world, and heralds a path-breaking collaboration between academia and practitioners.

"Providing absolute Information Security and IS Audit Systems is a challenge, and is of immediate relevance and concern to banks, especially in the context of current as well as changing business environments in banking like electronic payment systems, e-commerce, mobile banking, and Internet Banking. Deploying of modern and evolving technologies would require the banks to get equipped with requisite skills on a continuous basis. This M.Tech provides an excellent and right mix of the various aspects of Computer and Information Security," he said.

The programme, jointly conducted by the University of Hyderabad

and IDRBT, is open to both direct and sponsored candidates from the banking and financial sector. It is a multi-disciplinary programme that seeks to merge the new and emerging technologies in Information Technology with the domain expertise in the ever-changing field of banking and financial services.

Dr. Reddy also delivered the Dr. S. Radhakrishnan Memorial Lecture on "Reviving Confidence in the Indian Economy" and inaugurated the 2Mbps leased line connectivity between the

University of Hyderabad and IDRBT. This will facilitate better and easy communication between UoH and IDRBT, sharing library and other resources, and also provide an avenue for video-conferencing. IDRBT has also created a Corpus Fund to promote Higher Education and Reserach in Banking Technology Management as a core area.

Dr. V.P. Gulati, Director, IDRBT, made a presentation on the unique features of the M.Tech Programme. He also thanked Prof. P.Rama Rao, VC, UoH, for his co-operation in this collaborative endeavour and for organising a befitting function for launching this unique course.



Dr. Y.V. Reddy, Deputy Governor, RBI, Dr. V.P. Gulati & Prof. P. Rama Rao, VC, UoH at the launch of the M. Tech Programme

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### Bharat Ratna A.P.J. Abdul Kalam visits IDRBT

Bharat Ratna Dr. A.P.J. Abdul Kalam, Principal Scientific Advisor to Govt. of India and a Director on the Central Board of the Reserve Bank of India, visited IDRBT on Friday, 1st June 2001.

He had a one-to-one meeting with the Director to update himself on the activities and priorities of IDRBT. Later, in his meeting with the Faculty of the Institute, he said he was happy to see the young team and exhorted them to play a leading role in Information Security and Financial Networking. The sooner we integrate e-banking and e-commerce, the better it would be for our economic growth and national development, he said.



Our country has the richest resource in the world, the human resource, he said and pointed out that out of a billion of our people 700 million are young. If we could mobilize and activate this young and energetic resource properly, India could be on top

of the world within the next twenty years, he said. The Govt. of India is seized of this matter and a mega group of 500 experts are already on the job of planning programmes for achieving this goal, he announced.

Commenting on the role of banks, Dr.Kalam said the small and medium industries have to be nourished and encouraged to ensure balanced development and optimum utilization of resources.

After having a look at the facilities and labs and gaining a personal insight into the various activities of the Institute, he complimented IDRBT for its initiatives in

Research and Development and for providing a national backbone for financial communication, the INFINET. **The Institute holds the key for qualitative improvement in the way banking would be done in the near future, he said and wished the Director and his team all success.**

### International Seminar on Payment & Settlement Systems: Challenges for Emerging Economies

An International Seminar on Payment and Settlement Systems: Challenges for Emerging Economies was held at the Institute from June 13 - 15, 2001. This Seminar was jointly organised by the Institute, the Bank for International Settlements and RBI.

Delivering the welcome address, Dr. V.P. Gulati, Director, IDRBT, focussed on the banking technology systems in India, the INdian Financial NETwork, and the initiatives taken by IDRBT and the RBI for implementing automated payment and settlements. He dwelt on the progress of the Mail



Dr. V.P. Gulati, Director, IDRBT, lighting the lamp at the inaugural session. Dr. R.H. Patil, Shri K.R.Ganapathy, Shri Visweswar and Shri Marc Hollanders are also seen

Messaging System, Structured Financial Messaging Solution and Public Key Infrastructure etc; and briefed the delegates about the various research and development activities undertaken by IDRBT.

Inaugurating the seminar, Dr. R.H. Patil, Chairman, Clearing Corporation of India Limited, shared his experiences in regard to the legal lacunae while running the clearing house and informed that the National Stock Exchange is all set to introduce rolling settlements. He stressed upon the need for hassle-free payment and settlement system.

and diffused. The current priority for policy should be to clarify the relationships between the regulator, regulated, owner and government as well as a well-defined regulatory focus to enable healthy development of financial markets.

#### Zero Regulation

It is heartening to note that **the Prime Minister has recognised the enormity of the issue** of institutional impediments in the revival of economy **when he declared** before the meeting of National Development Council on September 1, 2001: **"We must quickly identify and eliminate all perverse laws, regulations and procedures which lead to unproductive activities, cost increases and sap the energies of the entrepreneurs"**. In order to operationalise the suggestion, the Government may consider establishing "Zero Regulation Advisory (ZRA)", a person or a Committee of eminent non-officials who would take on board any questioning of any regulation or Law as excessively intrusive or costly or unnecessary. It can also accept suggestions for modifications or alternatives.

The experience of RBI with Regulations Review Authority, is very instructive in this respect. For example, ZRA could designate Regulation Review Outpost in each regulatory organisation, somewhat on the lines of the Chief Vigilance Commissioner designating vigilance officers in various Ministries and organisations, though the reporting and work methods would have to differ.

#### Portfolio Management Approach

**Whenever a private operator is permitted to enter an activity and compete with an existing public enterprise, the unique rationale for continued public ownership is eroded as such enterprises form part of commercial investment portfolio of government.** Secondly, the Government should have the prerogative and obligation to elaborate and define considerations that determine non-commercial characteristics warranting public ownership on a subsisting basis. Thirdly, all enterprises in commercial investment portfolio have to be operated on commercial considerations and shareholding may be continued, reduced or expanded on commercial considerations alone.

To ensure this, ownership of all such enterprises need to be transferred to what may be termed as Portfolio Management Company of India (PMCI). The procedure recognises that while Government or Ministry has the responsibility to decide on public purpose of an entity, disinvestment or operations of a commercial entity require a different set of expertise.

#### Bypass and Delivery of Services

The popular perception of effect of reform and thus confidence in the economy appears to have been undermined by the deterioration in the quality of public services be it education or even drinking water. While a generation ago, most of these facilities were sought and provided in the government sector, today, a large part of these facilities is available only on commercial basis. In other words, there is a phenomenon of "bypass" of these public services.

While superfluous regulatory aspects would be considered by the proposed ZRA, there is a need for assessing, on a continuous basis, the cost of inputs and the quantity as well as quality of output in regard to delivery of these public services. Perhaps, it is possible to devise mechanisms under the aegis of the Comptroller and Auditor General to make such assessments on a continuing and scientific basis, by outsourcing as is being done in respect of commercial audit of public enterprises.

#### Overhang Issues

It is necessary to make a distinction between what may be termed as "flow" issues and overhang issues. There is merit in insulating the overhang problem from flow issues and demonstrably solve the flow problem upfront. For example, in regard to food stocks there is addition to buffer stocks virtually on a continuous basis and a policy needs to be evolved to tackle this flow. Any solution to the overhang problem of large magnitude is bound to be operational over the medium-term and may involve admission of the magnitude of possible losses to be incurred.

Since many of these issues require well crafted medium-to long-term actions, it may be necessary to define the goals specifically and negotiate the process rather than move forward in an ad hoc manner. In other words, **disjoined incrementalism may not be mistaken for sequencing of reforms and there is merit in coming clean, defining destination and negotiating as part of political process, the arduous but rewarding journey towards the sustainable and credible progress towards a modern, humane, prosperous and egalitarian society.**

*(Excerpts from the Dr. S. Radhakrishnan Memorial Lecture delivered by Dr. Y.V. Reddy at the University of Hyderabad on September 05, 2001)*



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In regard to growth of GDP in per capita terms also, India's performance during the period is among the top ten. In the external sector, India, along with China, has been described as "an island of stability amidst seas of turbulence" in international currency markets in the recent years.

Yet, there is a sense of impatience if not despondency at our economic policies. The reasons are fairly obvious. We start from a low base of GDP from which impressive rates of growth are noticeable. India still accounts for a very large concentration of poverty and of illiteracy, and hence fruits of development either may not reach or are inadequate. While employment in organized sectors has virtually stagnated, in recent times, insecurity in employment has crept in. Skill-irrelevance of most of the manpower to the emerging needs has a depressing influence, especially when coupled with downsizing. There is widespread awareness of the capacity of the economy to grow rapidly and they see no apparent reason for slower than possible growth.

**An Approach to Revival of Confidence**

It is customary for the RBI to present an Annual Report each year and that Report for 2000-01, was approved by its Board of Directors on August 16. The Chapter on Assessment and Prospects sets out a carefully constructed statement of the RBI Board's perspective and this provides a useful starting point to debate what needs to be done to revive confidence in the economy.

In regard to structural factors, a particular mention is made of the operation of the institutional constraints on growth. The suggestion is that the legal framework and institutional arrangements would have to be accorded priority in the structural component. As regards the relative role of macro economic and micro economic considerations, it is made clear that both require to be addressed. In particular, the advantage of shifting public expenditures from subsidies to investment as a means of efficiency, equity and regional balance is pointed out. Furthermore, desirable measures for the creation of an efficient system of market intermediaries, quality-enhancement, perhaps through certification, introducing insurance mechanisms, developing nation-wide multi commodity exchanges, etc., are listed out. With regard to industry, the fact that public sector enterprises still dominate the economy is noted and a strong plea is made to end uncertainties in regard to the future of public sector enterprises.

The thrust is that enhanced resources should be made available to select public enterprises, which have strategic significance or strong public purpose, while clearly and promptly disinvesting Government's equity in the other enterprises. At the same time, the creation of a conducive environment for industrial revival warrants an appropriate regulatory framework to improve infrastructure. Finally, in the context of the new economy, the emphasis is on removal of procedural and institutional constraints, thus warning against bureaucratization in the name of creating enabling environment.

**Exploration of Some Measures**

Reviving the economy requires boosting of confidence by combining both structural and other cyclically relevant measures. While the latter are desirable, such measures must be combined on a credible basis with structural measures. The intention is to express purely exploratory technical views in five of the areas that are critical, namely, financial sector, regulatory framework, public enterprises, delivery of public services, and overhang issues. These do not in any way constitute the official position of RBI.

**Advisory on Financial Sector Restructuring**

The regulators of financial sector have some additional complexities in relation to public sector entities. First, in the case of statutory bodies including public sector banks, there are certain regulatory constraints. For instance, both for reasons of legality and reputational risk, the regulator cannot cancel a licence, say to a public sector bank, even if it fails to meet capital adequacy norms. The recourse open to the regulator in the case of owner's unwillingness to inject capital to meet capital adequacy standards is unclear and this often leads to regulatory forbearance. Second, as in the case of UTI and Development Financial Institutions, the legal basis of jurisdiction of regulators is somewhat ill-defined.

Thirdly, Government tends to be closely involved in some of the operations of many of these institutions and overlapping of accountability is plausible. Fourthly, as long as these institutions function without reference to sound principles of corporate governance, inherent weaknesses persist. In fact, where there has been disinvestment and consequently some shares are held by the public, minority shareholder interests are not seriously factored in. Fifthly, **the Government expects the regulator to often function as its agent, which further complicates accountability.** Finally, the regulatory focus of these institutions is not well defined

Shri K.R.Ganapathy, CGM-In-Charge, DIT, RBI, dwelt upon the major initiatives undertaken by RBI, towards strengthening the payment and settlement systems in the financial sector and its plans to extend the MICR to 10 more centers.

The inaugural session was followed by a range of presentations. Marc Hollanders, BIS, made a presentation on Payment Systems, General Concepts and Analytical Concepts. It specifically focussed on the central bank's objectives in regard to payment systems, the implementation of its monetary policy and the stability of the financial system. This was followed by a brief discussion on the different types of payment systems, with an emphasis on large-value systems, and an overview of the most important types of risks in those payment systems.

Ms. Christine Preisig, Swiss National Bank, focussed on Large-value Payment Systems. Safe, convenient and economical large-value payment systems are a key requirement in maintaining and promoting financial stability. The development and widespread adoption of systems with real-time gross settlement (RTGS) helped to effectively control financial risks. RTGS systems replaced deferred net settlement (DNS) systems as a standard in large-value payment systems. An ideal payment system should therefore be designed in such a way that it is as liquidity saving as a DNS system and as safe as an RTGS system.

Mr. Nick Roberts, Reserve Bank of Australia, summarised the two reports published by the Committee on Payment and Settlement Systems: (1) Retail Payments in Selected Countries: A Comparative Study (1999), and (2) Clearing and Settlement Arrangements for Retail Payments in Selected Countries (2000).

In her presentation on Risk in Payment Systems: Topology and Management, Christine Preisig, focussed on the vulnerability of a system to financial risks. It depends on a number of factors such as the size and duration of a participant's credit and liquidity exposures and the propensity of a system to give rise to unexpected settlement

obligations for participants. In DNS systems, where the payment message is sent to the receiving bank before settlement takes place, the participants are exposed to financial risks for the period until the payment is settled. Risks in DNS systems can be managed by placing limits on the maximum level of credit risk.

Mr. Nick Roberts' presentation on Core Principles for Systemically Important Payments Systems, emphasised that the principles are part of a broad effort by the international community to assure the stability of the financial system. It focussed on the use of the Core Principles for self assessment and noted that there were other uses for the Principles including guiding efforts to reform payments systems. Participants were particularly interested in the initiatives being undertaken to ensure that countries comply with the Core Principles.

The presentation on the CPSS-IOSCO Recommendations on Securities Settlement Systems, by Smt.Usha Thorat, RBI, (SSS) covered the objectives of the Joint Task Force of the CPSS and IOSCO, various key concepts and terms used in SSS, and the recommendations. The background for the Joint Task Force, the 18 recommendations pertaining to various risks, which various entities comprising a SSS are exposed to, were discussed

Mr. Daniel Lefort, BIS, in his presentation on Legal Issues on Payment and Settlement Systems provided an overview of selected legal issues relevant to the design and operation of payment and settlement systems with particular emphasis on the variety of public and private law rules applicable to such systems. The issues covered included the legal aspects of credit transfers, the enforceability of netting arrangements, insolvency and the "zero hour" rule, collateral issues, irrevocability and finality of payment, and the need for harmonisation of domestic law and international co-operation.

Mr. S.R. Mittal, RBI, in his presentation on the design of an Integrated National Payment System – India's Approach (Concepts, Policy and Technical Issues), explained in detail





the Indian banking structure and the design and development of an integrated payment and settlement system. He also focussed on the development of the INFINET and discussed the progress in implementation of Securities Delivery Vs. Payment Systems, Negotiated Dealing System for call transactions etc. He informed that by October 2002, RTGS will be implemented in India.

This was followed by a Panel Discussion, chaired by Dr. A. Vasudevan, Hon. Adviser, RBI, wherein he explained in detail the payment systems and monetary policy with regard to the effectiveness of the system, interface with exchange rates, the financial stability and the role of central banks. The participants of the panel discussions outlined the basic principles associated with payment systems and the payment practices in their respective countries and discussed in detail the areas where improvement can be achieved.

The delegates opined that safe and efficient payment systems are critical to the effective functioning of the financial system and are required in maintaining and promoting the financial stability of a country. They explained the need for the Central Banks to cooperate with

private payment system providers to promote safety, efficiency and interoperability by developing globally acceptable standards.

The delegates felt that such seminars provide a relatively complete understanding of the benefits, costs, risks, payments and globally applicable legal framework associated with mature payment systems. While countries move towards restructuring their own payment system, it would have a firm basis based on the exposure in the seminar.

Delivering the valedictory address, Dr. R. B. Barman, ED, RBI, highlighted the importance of payment and settlement systems in the emerging global economic scenario. He put forth his view point on the importance of centralized database management system and the need for data warehouse and data mining, the frauds in transaction, and the central banks initiatives for a stable, effective and secure payment system. Dr. Barman welcomed conducting of such an informative seminar and appreciated the efforts being made by IDRBT through its various research and development activities in achieving the automation in payment systems and providing for adequate security standards.

### Conference of Regional Directors and CGMs-in-Charge of Central Office Departments of RBI

A conference of Regional Directors and CGMs-in-Charge of Central Office Departments of Reserve Bank of India was held at the Institute on September 20-21, 2001.

Delivering the welcome address, Dr. V.P. Gulati, Director, IDRBT, focussed on technology implementation in the banking sector, and drew the attention of the participants towards the great strides made by the Private sector. He stressed on the need for increasing the usage of INFINET and informed about the formation of Core Groups in all the Public Sector Banks and their meetings at IDRBT.



Shri Vepa Kamesam, Deputy Governor, RBI and Dr. V.P. Gulati, Director, IDRBT, proceeding for the conference

Focussing on the need for changing the culture in PSBs, Dr. Gulati dwelt upon the importance of Corporate e-mail and Intranet in technology absorption.

The welcome address was followed by a presentation on RBI Information Technology Plan and Initiatives by Shri. K.R. Ganapathy, CGM-in-Charge, DIT, RBI, wherein he focussed on the technology deployment in the RBI. He talked about the IT Policy of the Reserve Bank, the role of DIT as a facilitator, current status of the various initiatives and drew up the road map for the future.

In his inaugural address, Shri Vepa Kamesam, Deputy Governor, RBI, shared some of his observations during his first few months in RBI. He was particularly concerned about the need to fully exploit the INFINET since it is now more than two years old.

### REVIVING CONFIDENCE IN THE INDIAN ECONOMY

Dr. Y.V. Reddy, Deputy Governor, RBI

It is necessary to recognise that India remains one of the best performing economies in the world, in spite of the current indications provoking a debate on the need for revival of the economy. It is important to revive confidence in the economy in any attempt to improve the performance. An approach in this regard can be discerned from the latest Annual Report of the RBI.

#### Performance of Indian Economy

India today is rated as the fifth largest economy in the world, measured in Purchasing Power Parity terms. Only the U.S., Chinese, Japanese, and German economies are larger than ours. In terms of Gross Domestic Product (GDP) growth rates, India was one of the ten fastest growing economies in the world during the eighties, and moved up to the eighth fastest during the period 1980 to 1998.

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### IDRBT Wins Golden Peacock National Training Award

IDRBT has been bestowed with the "Golden Peacock National Training Award 2001" for its exceptional contribution to training by the Institute of Directors (IOD), New Delhi.

Lord Swraj Paul, Chairman, Caparo Group, presented the award to Dr. V.P. Gulati, Director, IDRBT, on August 3, 2001, at the IOD Foundation Day Ceremony in New Delhi. Shri Suresh Prabhu, Hon' ble Minister of Power, Government of India, and Dr. M. B. Athreya, Management Advisor, were the Chief Guests at the glittering function, which was attended by a large number of CEOs, Managing Directors and corporate leaders from all over the country.



Dr. V.P. Gulati, Director, IDRBT receiving the Golden Peacock National Training Award from Lord Swraj Paul

The Golden Peacock National Training Award identifies training that makes a real difference and offers tangible benefits to the business, organisation and community. It awards excellence in training practices; shows how effective training improves business and individual performance; provides role-models from all parts of the Indian Corporate life and encourages greater commitment to training and staff development.

The Institute, since its inception, has been conducting a range of Executive Development Programmes, Workshops, and Conferences for the top managements and specialist officers to quicken the pace of Technology Absorption in the Indian Banking and Financial Sector. IDRBT conducts training programmes in the areas of Financial Network and Application Architecture, Payment Systems and Security Technology, Multimedia, Internet Technologies and Web Based Learning, Data Mining, Data Warehousing and Risk Management.

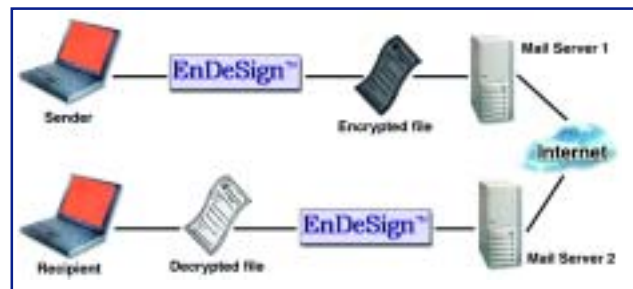
The Institute of Directors is a non-profit apex association of directors, only one of its kind in India, which has been founded to create a highly proactive and potentially powerful platform to facilitate and encourage development of state-of-the-art expertise in improving the competitiveness of Business and Industry. It is currently spearheading the integrated Quality and Environment movements in the country. In addition to the major annual features like "World Council on Total Quality" and "World Congress on Environment Management" it also organises workshops and related management development and training programmes, especially for directors and top managements.



## EnDeSign™

Exciting times are here, for the World Wide Web has taken the world by storm. The idea of doing business globally on the Internet is now a reality. Electronic Commerce heralded the concept of allowing business to be transacted directly between the consumer and merchant, with no intermediaries, and with instant response and virtually no overhead costs.

But it has also given birth to a host of problems. The Internet is an open network, which means the transmissions can be overheard, intercepted, and forged. The data moving across the Internet is vulnerable at quite a few points.



An electronic-commerce application can be successful, only if the transactions involved are secure. If the security is not assured, the transactions might get modified in-between; hackers can create havoc with bank account numbers, confidential documents, communications, and credit card numbers of the customer as well as that of the merchant. The need for secure communications and transactions is of paramount importance and therefore developers need to add leading-edge security to their applications quickly and in a simple manner.

EnDeSign™ software comes in handy in such a scenario. Based on open standards and thoroughly tested for multi-platform interoperability, EnDeSign™ software is designed to simplify and accelerate universal PKI application development by providing a single package cryptographic software needed to build and deploy security on your desktop.

EnDeSign™ provides complete encryption of file and folders along with digital signatures.

It ensures:

*Privacy:* Keeps the message confidential and prevents eavesdropping.

*Authentication:* Digital signatures are used as proof of identity.

*Non-Repudiation:* Files are digitally signed providing proof of origin.

*Integrity:* As files are hashed and signed, integrity is assured.

EnDeSign™ provides a range of utilities such as:

- File Encryption/File Decryption using Advanced Encryption Standard (AES) algorithm (Rijndael) with 128-bit key length.
- Folder Encryption/Folder Decryption, one click encryption/decryption of folders.
- Key Encryption/Key Decryption using RSA algorithm (512/1024/2048 key length).
- Digital Signature on files using X.509 Certificates.
- Verification of Digital Signatures.
- CRL validation of digital certificates.
- Smart card integration on demand.

The AES algorithm was chosen for EnDeSign™ for a variety of reasons. The most important among them are that RC2, RC4 and IDEA are all subject to intellectual property claims; 3 DES is less efficient than many modern ciphers and the AES is efficient, and has withstood extensive cryptanalytic efforts. Hence, EnDeSign™ is a desirable choice.

For the 30 day trial version of EnDeSign™ on the Windows NT/2000/9x, Linux platforms please contact: **Dr. Ashutosh Saxena**, Faculty, IDRBT.

He stressed on the need to take immediate steps to ensure that the systems and procedures are modified to take care of the changed work environment.

"We have to move over from the current mode of functioning to basing our decision on the basis of the information processed over network based computers. Not only do we have to ensure that we exploit the benefits of technology but the changes made must reflect on simplified work procedures and reduced duplication, he said. Stating that the ultimate litmus test of any organisation's performance is its capacity to accomplish the objective for which it has been set up, he stressed upon the need to achieve systemic efficiency in order to provide improved customer service.



Regional Directors and CGMs-in-Charge of Central Office Departments with Shri Vepa Kamesam

Dr. V.P. Gulati, Director, IDRBT, kickstarted the proceedings on the second day with his presentation on "Technology Implementation - current issues and concerns". Various types of technology applications and banking business, priorities of the banking and financial sector, need for Corporate networks, HR Strategy, benefits of INFINET, and financial regulations and supervision of banks were some of the issues he discussed in detail.

In the next session, CGMs-in-Charge of Central Office Departments of RBI dwelt upon applications related to

their departments. This was followed by a session on Regional Office Related Applications and IT strategy of RBI.

In his valedictory address, Dr. R.B. Barman, Executive Director, RBI, too focussed on the urgent need to provide for the applications to be processed using the INFINET. The first set of applications that could benefit greatly from the use of technological advances in the computer and communications area relate to the Payment Systems, which form the lifeline of any Banking Activity," he pointed out. He also dwelt in detail on security and the new initiatives undertaken by the RBI. Calling for an introspection on the existing levels of security within the bank and the desired levels of security,

including the risks associated with the changing of operations in a computerised environment, he emphasised that security requirements should be addressed at the application level as well as network level. He stressed on the need for a technology plan, which has to be periodically monitored and upgraded, and sharing of technology experiences and expertise to reap the full benefits of technology implementation across a wider community. □

### Electronic Commerce for IDBI

An exclusive three-day programme on Electronic Commerce was held for the Industrial Development Bank of India from June 28 – June 30, 2001.



The major issues discussed include E-Business, Financial Network Architecture, Security and Certification, Smart Card, Data Warehousing and Cyber Crime, Risk

Management and Electronic Payment Systems. **Shri A.R. Dani**, Faculty, IDRBT, coordinated the programme.

### Workshops for Core Groups

Core Groups were formed in all the Public Sector banks to deal with technology issues. Two-day workshops for these core groups were held between July and August 2001. Three to four banks participated in each workshop wherein each bank's IT infrastructure, roadmap for the future, and issues like Corporate E-mail, SFMS, Certification Services over the INFINET, Routers, NATS & Proxy Servers were discussed threadbare.

The Faculty of IDRBT are studying every bank and a bank specific comprehensive IT plan is being drawn up. This plan will be highly useful for technology absorption in Public Sector Banks.



### Banking Technology for Corporation Bank

This Customised Executive Development Programme, held exclusively for Corporation Bank, from Aug 09- 11, 2001, focussed on various facets of Banking Technology and provided inputs on Windows NT/2000 Server, Server Set Up and Administration, MS Exchange, INFINET, Network Security & PKI, Routers, NATS and Proxy, SFMS, and Corporate Network Applications. **Dr. V.N. Sastry**, Faculty, IDRBT, co-ordinated this programme.



### Communication and Networking Technologies for Canara Bank

Two customised Executive Development Programmes on Communication and Networking Technologies were conducted for Canara Bank. While the first was a six-day programme from Sep 03-09, the second was a three-day programme from October 03-05, 2001.



The topics discussed included Networking Concepts, WAN Technologies, Corporate Intranet Applications, VSAT Technology, IP Addressing System, Routing Protocols, Mail Messaging, Digital Certification,

Network Security and Structured Financial Messaging Solution.



The programmes, which provided theoretical inputs as well as hands-on-experience was well received. **Shri Varghese Jacob**, Faculty, IDRBT, co-ordinated both these programmes.

### Network Management & Troubleshooting for RBI

This programme was exclusively held for the Reserve Bank of India from September 24-29, 2001.



The programme aimed at disseminating knowledge which is important for officers who will be designing, implementing, managing and operating networks using various wide area networks such as the INFINET.

Network Management System, PKI and Encryption, Network Security, RIP, OSPF, ISDN, Firewall, Manging Traffic Access List and VLSM were some of the issues deliberated.

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

### Indian Financial Network

The INFINET network, which now has 705 VSATs, is running smoothly and a large number of critical applications including Funds Transfer are successfully working on the network.

Consequent to the addition of 16 inroutes to the network, there was a steady increase in the number of VSATs as also the number of applications ported on the network. The peak usage of the 2 outroute paths has grown steadily from around 40% in December 2000 to around 70%. The VSAT network is currently using transponder No.8 on INSAT 3B. The 32 inroutes and 2 outroutes occupy approximately 19 Mhz out of total of 36 Mhz available on the full transponder No.8 of INSAT 3B.

While a number of DAMA/PAMA channels are likely to be added in the network in the near future for the use of the Reserve Bank of India, State Bank of India and Clearing Corporation of India Ltd., it is felt that there is a possibility of further usage of transponder space to the tune of approximately 4.5 – 5 Mhz.

In view of the availability of transponder space and the steadily increasing requirements for bandwidth

as also stray occurrence of bandwidth constraint, it is felt that there is a case for further expansion with 16 more inroute paths and one more outroute path in the network. The details are being worked out.

### Structured Financial Messaging Solution

The Compaq Himalaya servers, including java environment, database, webserver and messaging middleware for SFMS Hub have been procured and installed. Three Bank Gateway servers (SUN E 450), one each for Bank of Maharashtra, Canara Bank and Punjab National Bank have also been installed. Six Bank Branch servers (ACER ALTOS 1200) too were procured. Out of these six, three are installed with Windows 2000 and remaining three are on INTEL Solaris. Porting of SFMS software on the servers is in progress.

In the next phase after the system testing, acceptance testing involving bank personnel from the three pilot banks will be initiated. It is expected that the SFMS will be ready for roll-out in the first quarter of 2002.

### Working Paper No. 7

### Framework of IT Security Policy

The Institute has published its seventh working paper. It is on "Framework of IT Security Policy" by **Dr. Ashutosh Saxena & Prof. V.P. Gulati**. This paper presents a Framework of IT Security Policy by suitably classifying the security policy into three levels.

The first and foremost is the top-level plan, which provides a clear direction on the information security needs of an organisation. The second is the architectural plan. It is developed in accordance with the top-level plan and consists of various components of the security profile. The third, the operational plan,

provides specific guidance on allocation of security roles and responsibilities within the organisation.

Information is an important asset, which, like other business assets, is of immense value to an organisation. Therefore, it needs to be suitably protected. Information security is achieved by framing a set of policies and procedures. The paper concludes with the criteria for evaluating a security policy and remarks on interpretation and publicising of the IT Security .