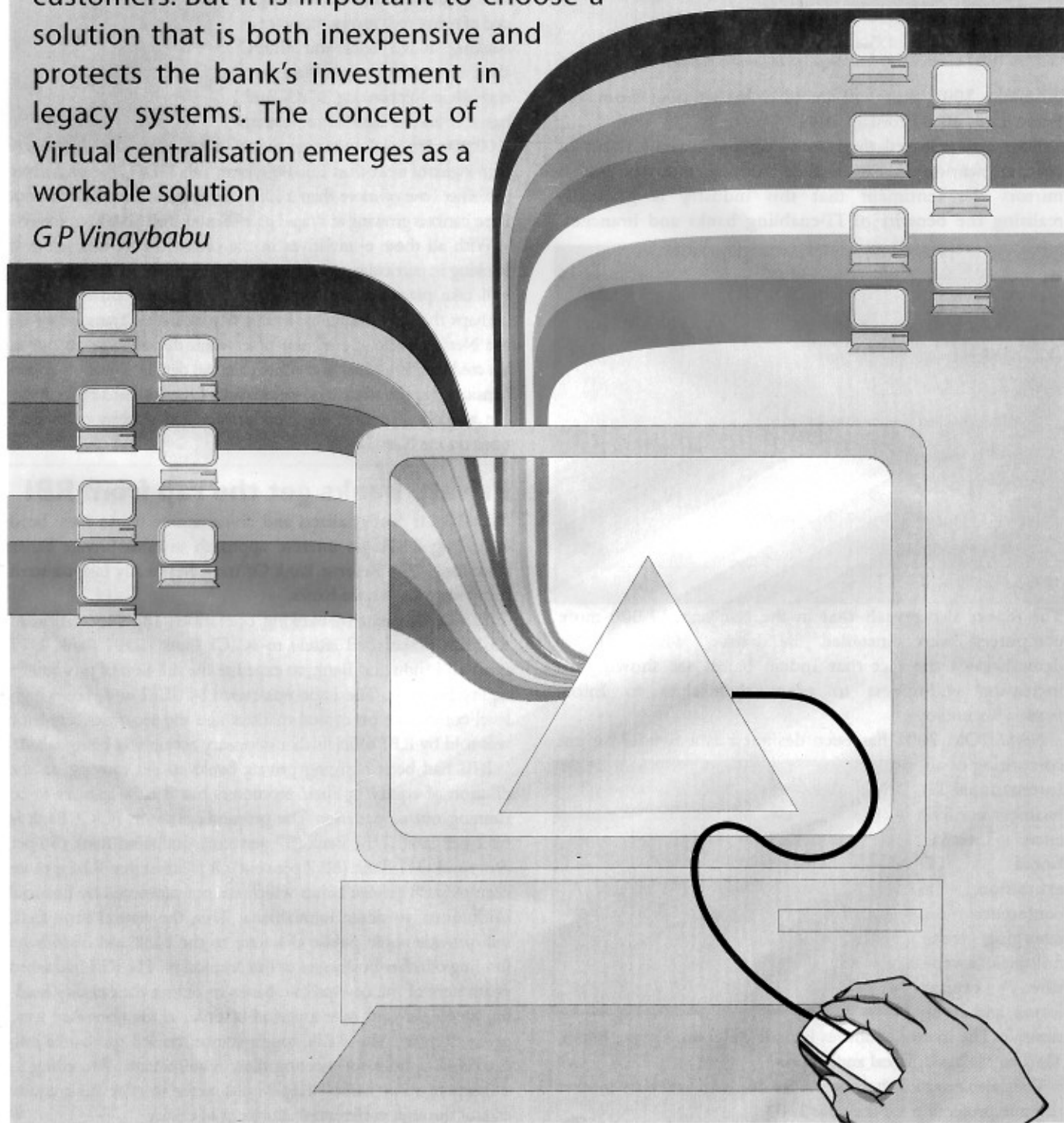


Information at your fingertips

Centralising and integrating user information gives banks the power to make informed decisions about its customers. But it is important to choose a solution that is both inexpensive and protects the bank's investment in legacy systems. The concept of Virtual centralisation emerges as a workable solution

GP Vinaybabu



COVER STORY

VIRTUAL CENTRALISATION

Banking today is all about meeting customer expectations. The power of information has transformed banks from being merely custodians of public money into truly customer-focused entities. If technology has given customers the convenience of banking@will, it has enabled bankers to make informed decisions about customers.

Take for example Citibank. With 1,400 branches and 3,800 ATMs in 46 countries, Citibank boasts of one of the largest networks of branches and ATMs in the world. Citibank's core centralised system integrates customer information from all across the globe thereby offering a customer access to the bank anywhere in the world from New York to Navi Mumbai and Tokyo to Toronto. Citibank's system is a completely centralised system.

Contrast this with State Bank of India, the biggest bank in the country and one of the largest in the world. With over 9000 branches spread all across India, it poses a huge challenge for the management to bring customer information under a unified control. As on date, branches, regions and zonal offices of the bank are largely working in isolation many times not even being able to service its huge deposit reserves. SBI is not alone in this; all public sector banks face this problem of a lack of centralised approach to customer information.

Technology maturity

Says S M Padwal, Sr. Vice President, Zenith Infotech who has seen the evolution of banking technology in India as a professor of National Institute of

Banking Management, "Technology has been introduced in Indian banks at the transaction processing level or technologically speaking at OLTP – online transaction processing level – basically debit and credit. Transaction processing

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S M Padwal, Sr. Vice President, Zenith Infotech

that was traditionally done with the help of a ledger, paper and pencil is now being done with a keyboard and a floppy. So essentially manual labour is replaced by technology. So the drudgery of work is removed.

But what should have happened is, these functions should have been inbuilt into the other applications of technology. The network connectivity and database control between branch office and the regional office and from regional office to the head office was necessary. But these second and third levels of technology maturity hasn't taken place."

Centralisation

The solution obviously lies in taking the centralization route that involves wiring up all branches and linking them up to the head office via regional and zonal nodes. However, centralisation to what extent

and in what fashion determines the outcome of its implementation. The prerequisite for centralization is computerization of banks that happens at three levels. The first one is the intrabranched computerization popularly called as the TBA or Total



Branch Automation. The next level is to link up different branches of a bank into a common network facilitating ABB or Any Branch Banking. The third level is to connect all the branches to the head office thus offering a truly centralised system that helps top management in decision-making. Centralisation can be realized either through complete centralization or virtual centralization. Citibank is a classic example of complete centralization. However, implementation of complete centralisation of the Citibank kind in Indian banks poses many problems.

Explains Raj Saraf, Chairman, Zenith Infotech, "there are some practical issues in implementing such systems in nationalized banks given the kind of investments, spread and size of these banks. There is a simple business reason that a nationalized or co-operative bank can't do so. Our estimates show that if they are going to implement fully centralized systems their cost of processing a transaction would be 300% higher than the present cost." Agrees S M Padwal; Sr. Vice President, Zenith Infotech, "Complete centralization is no doubt the best model. But the best may not necessarily be feasible and may not be desirable. When you say best it has to be defined in the context of best for a given customer and a given bank."

There is yet another reason why core centralization would be an expensive proposition for banks. Over a period of

"Integrating the data of important customers to the central processing unit is important. Instead of integrating the data of some of the branches it is important for us to integrate data of some of the customers."

A. Y. Pitre, Sr. Vice President, Zenith Infotech



time banks in India have adopted computerized systems but only in some pockets and branches. Out of a total 68,000 branches belonging to different nationalized banks in India, about 20,000 have already been computerized in some form. But the systems implemented by different banks and even branches of the same bank like TBA, PBA, ALPM & centralised processing systems, have not been uniform. The vendors, the nature of computerization have all been different. As such a total of only 100 banks have gone in for TBAs and 30 banks for ABB in some form. In such a scenario implementing a complete centralization solution involves scrapping the old systems completely to accommodate new systems. This is something the banks can ill afford.

Virtual Centralisation

Complete centralization, in spite of being the best solution to integrate customer information, large Indian banks are not ready for it, at least not as yet. This is where virtual centralization comes in as an effective alternative. Says Raj Saraf, "Everyone wants to talk about centralized systems but at the end of the day, I am sure no one would like to bear the cost of it. Therefore, the concept of virtual centralization is gaining ground. This helps distant processing of transactions and keeps the cost of the transaction low but still gives banks 90% of the benefits of centralization. In the real cost benefit analysis virtual centralization beats complete centralization hands down."

Virtual Centralization effectively overcomes the hurdles of completely centralizing the entire operations of a bank. "This is a workable model but not the best model," declares Padwal. He explains "At the end of the day the head office needs information about what has happened in the branch for that day in terms of asset liability, day-end balance, cash position and important client who has done an exceptionally large transaction. If this information can be made available without going through the expensive complete centralization route and can

'Virtual centralization beats complete centralization hands down in cost benefit analysis'

Rajkumar Saraf, Chairman, Zenith Infotech Ltd.

What are the broad areas of business that you are looking at?

We are basically looking at becoming total solution providers or TSP. Our idea is to become a one-stop shop for banks for all its IT requirements, right from consulting to implementation audits, to give our banks whatever is necessary to be competitive. For example in banking we are looking at front office software, back office systems and even delivery channels like ATMs, cash dispensers etc. that cover the entire gamut of services for banks.

What made you look at banking?

We started off with banking. Our software venture started solely focused on developing banking software in 1996. And the reason being the parent company Zenith computers was strongly into banking sector and we had very clear requirements for banking software in most banks whether be it co-operative, private or nationalized banks, that's why we looked at banking as a major focus area.

How did you click with banks?

The reason is very simple. We give them a good price, and practical technical solution for almost all their problems and queries. When most vendors talk of banking solutions on the basis of their experience in different countries we offer solutions suited to Indian conditions based on our experience of working with banks for many years. All this has come out after a lot of thought process and a lot of experience. For instance, take a co-op bank; if it installs Internet banking, their customers wouldn't accept it. The reason is most of their customers are traders and for them the worry is not IT, it is I-T (income tax). So we have to look at their needs in terms of a very clear market segmentation.

What is your solution spectrum and reach?

Virtual centralization, front office, branch



Rajkumar Saraf

automation, customer support automation, delivery channels, ATMs, cash dispensers, the hardware and the connectivity. We are supporting around 500 branches of various banks. We have 110 support engineers all over the country in 68 locations. There is no other banking software solution provider that has this kind of support all over India.

What is virtual centralization?

As a company we decided to focus our products and services on the nationalized and co-operative banks. We have seen that the new private banks follow the footsteps of foreign banks. For instance, ICICI Bank and HDFC Bank implemented their IT systems based on the Citibank model. Citibank and ICICI banks have core-centralized systems. The nationalized banks in turn take the lead from these new private banks. But there are some practical issues in implementing such sophisticated systems in nationalized banks given the kind of investments, spread and size of these banks. Therefore we came out with a concept called virtual centralization of data rather than a core centralized system. In fact even systems in ICICI or HDFC are more virtually centralized than completely centralized.

Does that mean that ICICI and HDFC do not have centralized systems?

They do, but they have done it more in the method of virtual centralization. The transaction processing cost, reliability, the

actual connectivity infrastructure that we have in India, and the fact that we have to be flexible in implementing newer services, makes it difficult to implement core centralization. For example, all multinational companies keep telling banks to implement centralized systems. But today there is a simple business reason that a nationalized or co-operative bank can't do so. Our estimates show that if they are going to implement fully centralized systems their cost of processing a transaction would be 300% higher than the present cost. Fine, everyone wants to talk about centralized systems but at the end of the day, I am sure no one would like to bear the cost of it. Therefore, the concept of virtual centralization is gaining ground. This helps distant processing of transactions and keeps the cost of the transaction low but still gives banks 90% of the benefits of centralization – not 100%. In the real cost benefit analysis virtual centralization beats complete centralization hands down.

How different is virtual centralization from the complete centralization?

The methodology of implementation is different; probably effectiveness of the answer is the same. You have to implement a system based on how practical it is to a particular bank and it varies on a case-to-case basis. One has to do a proper cost-benefit analysis, a feasibility study before implementing such a system. We have worked with more than 500 branches of various banks across the country in terms of software and 1,500 branches in terms of hardware. Now after working with the banks for this long we realize that complete centralized systems is not something that can be really implemented in India. Firstly the banks have already invested in software and it is not possible for them to scrap it to implement new systems. Therefore it is necessary for us to implement a solution around the existing system. That's where virtual centralization comes in.

Would the existing systems be retained in creating virtual centralisation?

PRISMe is our software for virtual centralization. And we are telling banks to keep the existing systems and buy this concept of PRISMe, buy our auditing and consulting services and we'll implement virtual centralization for you. PRISMe is a universal financial middleware. It stands for 'programmable intelligent switching mechanism' which essentially can deliver data over any kind of physical network, any operating system, any software, any database to any other software in the form required. For instance to do an ATM transaction, we install it between the ATM and the bank software, and between the Internet and bank software for Internet banking transaction, between different branches for inter-bank transactions and it will automatically send agents across to different branches to collect the MIS reports and give it to the management. It will also take care of cash management and centralized clearing. Rather than junking everything and buying a new system, we work around the problem.

Is this just another middleware that most vendors are talking about today?

This is of course a middleware but a lot of process knowledge has gone into implementing it separately in case of MIS, Internet Banking, ATM and other delivery channels. A lot of process knowledge is built into the software based on the practical aspects and functioning of banks. For instance, even in case of new private banks, the reality is that the customers complain that the bank statements on the Internet, on the ATMs, and from branches don't match.

What is this concept of a hitech bank within a bank?

This was invented by Prof. Padwal. Take for example, Bank of India, which has 3000 branches. All these 3000 branches don't require modernized services. Out of that only probably 100 branches have upmarket professionals,

businessmen and corporates who require these services. So why go and install that piece of technology at all the branches without reason. We are telling them to isolate these 100 branches and make them a hitech bank within a bank. So create an ICICI bank within Bank of India. Don't try to convert the entire bank into ICICI bank, which is neither required nor feasible. So what we say is to take a pragmatic path and start approaching the problem from the very basics. Get the most important customers what they want instead of implementing technology everywhere.

Where do you see yourself in the near future?

Last year we had a turnover of 18 crores in domestic business and all of that was from the banking industry. More than half of even our international business comes from the banking segment. Our competitors are probably I-flex, Infosys and TCS etc. We would like to be among the top two banking solution companies in the country. Today we are at the 4th or 5th place. I think we can reach the top position in banking solutions in the next four years' time. This year we should be reaching a turnover of 27 to 28 crores. This will grow by around 70% to 80% every year.

We are basically doing a lot of technology work in the US working with very hi-tech companies there to build their products. But as an industry focus we are very surely going to stay in the financial services sector.

What is your USP?

We have got the support, practical solutions and practical price-performance rates, which no other vendor has. So essentially we support price performance and all solutions under one roof and more importantly we have a 1,000 man-years of expertise, which is a very rare thing.

Today we offer a package for a retailer bank at Rs. 18,000/- a month per branch that gives it all the necessary services and modules for modern day banking. Lot of smaller banks have already bought this concept of ASP from us.

be done through a decentralized distributed set up by just transferring a file through a software switch, then it helps the bank in keeping track of customer dynamics immensely. This is realized by virtual centralization."

Virtual centralization is a concept pioneered by Zenith Infotech. The company has developed a product called Prism-e that helps in achieving this.

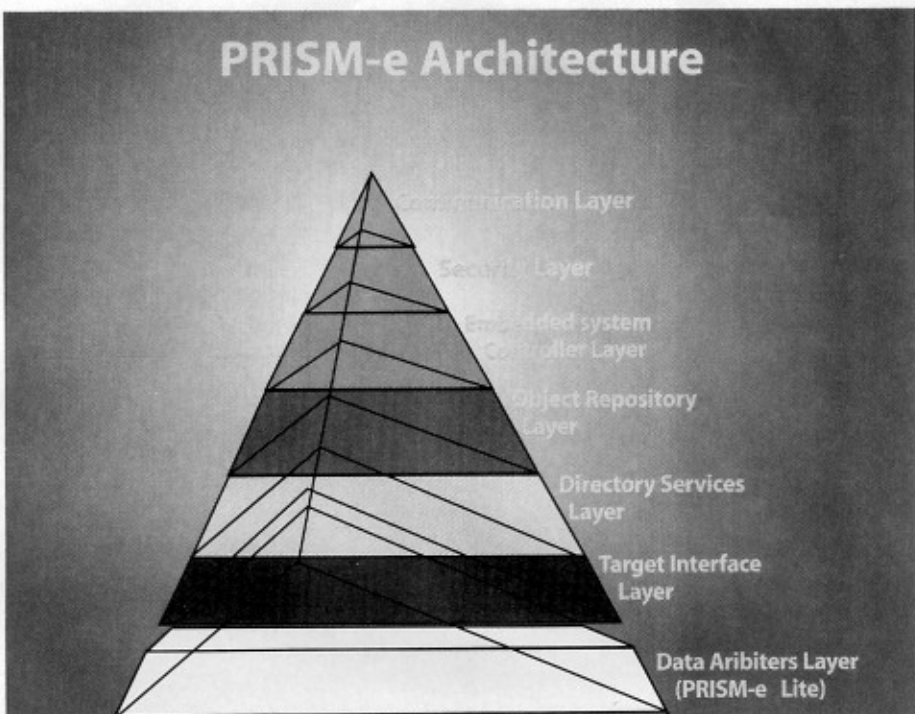
Financial Middleware

PRISM-e is a universal financial middleware that allows information pooling through Virtual Centralization. It is a switch that transfers encrypted data from branches to the head office. It stands for 'programmable intelligent switching mechanism' which essentially can deliver data over any kind of physical network, operating system, software, database to any other software in the form required. The solution seamlessly integrates with the existing infrastructure of Banks. The Three-Tier architecture of the solution not only lends itself to be a scalable distributed processing system, but also becomes the backbone for incremental network development.

Retaining customers

With the help of a computerized setup that is virtually centralised serving

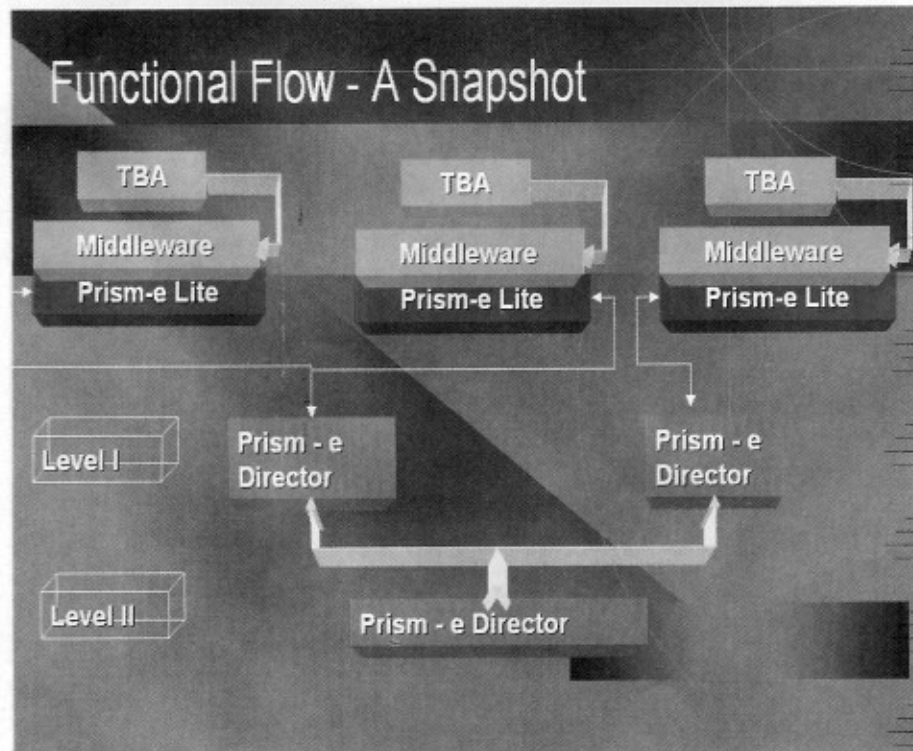
documented in the form of a transaction right from the time he opens an account, like what kind of a customer,



the customer needs become easier for banks. Says Padwal, "Once the information relating to money and markets gets

what is his net worth, what is his total stake in the bank and where does he help me add on to my bottomline it becomes easier for the bank to serve him better. Relationship to the industry he belongs to is also important as it helps in customer relationship management. Such a database that is fully integrated is impossible to be developed without the help of technology. Effective risk management of individuals is possible by this."

Another Vice President of Zenith, Mr. Pitre agrees, "The trend is from distributed processing to centralized processing. Integrating the data of important customers to the central processing unit is important. Instead of integrating the data of some of the branches it is important for us to integrate data of some of the customers. Those customers who constitute 80 percent of the business. Corporate and ordinary customers differentiation should be established. Even if it is in the remotest corner of the country it should be integrated."



Hitech bank within a bank

Serving customers based on their importance is vital. This calls for a new approach that Padwal calls as the concept of a hitech bank within a bank. "Given the large network of branches of a public sector bank, neither is it desirable nor is it possible to go in for total centralization. You have certain kind of client called as a performing asset who should be retained at any cost. If by centralization you are not concentrating on these PAs and target NPAs, there is a possibility of the PA leaving the bank. There are also other kinds of assets called potentially performing assets that needs hand holding. These are possible through customer data control."

Adds Raj Saraf, "Take for example, Bank of India, which has 3000 branches. All these 3000 branches don't require modernized services. Out of that only probably 100 branches have upmarket professionals, businessmen and corporates who require these services. So why go and install that piece of technology at all the branches without reason. So we are asking them to isolate these 100 branches and convert them into hitech banks within a bank. So create an ICICI bank within Bank of India and not try to convert the entire bank into ICICI bank, which is neither required nor feasible."

Total Solution Provider

With Prism-e Zenith infotech has now become a TSP (Total Solution Provider). Its solution extends from Hardware plat-

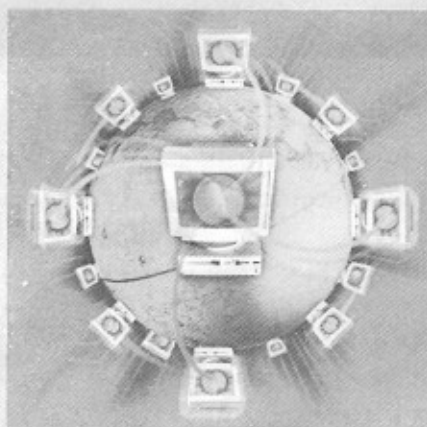
Technologisation in Indian banks

S M Padwal traces the path of technology induction in Indian banks

Starting from 8,000 branches at the time of nationalization three decades ago we have reached almost 70,000 branches at the turn of the century. The number of accounts and number of customers have grown exponentially. As the number of banks and branches increased, it resulted in increased pressure on data processing functions. This pressure of data processing was reduced using OLTP, IBR (interbranch reconciliation) and computerization.

Policy makers decided to bring housekeeping and other areas of high volume and low complexity applications under computerisation. It helped cost control and house keeping. This helped internal processes to get more efficient as well.

Induction of technology was a resultant of the agreement between the Indian Bank Association and the recognized trade unions on 8th of September 1983 (1969-1980 - first phase of bank growth). The unions didn't want computerisation to be called so, but called it mechanization. Further they also set the condition that induction of technology had to be in the form of advanced ledger posting machine (ALPM) and not computers. Memory restriction was 64 KB and the function of a computer was restricted only to savings bank accounts. These restrictions were due to the sheer fear that computers would render many people jobless or future recruitment will be stopped.



The unions however changed the stand to allow integration of functions within the branch and increasing the operating allowances for the computer operator later on. They realized that Automation would change the type of the job but would not render people jobless. In late 80s there was virtual change of stand from opposing computerization to demand for computerization.

The next phase of technologisation was to expand products and services and improve customer service. This started happening in the early 90s. Internationally Indian banking industry started making its presence felt as India as an economy started getting recognized and foreign investment started

coming in. Therefore Banks were under pressure not only to bring housekeeping functions under control but also to show better balance sheets to be able to reach international standards so that it could attract foreign investment.

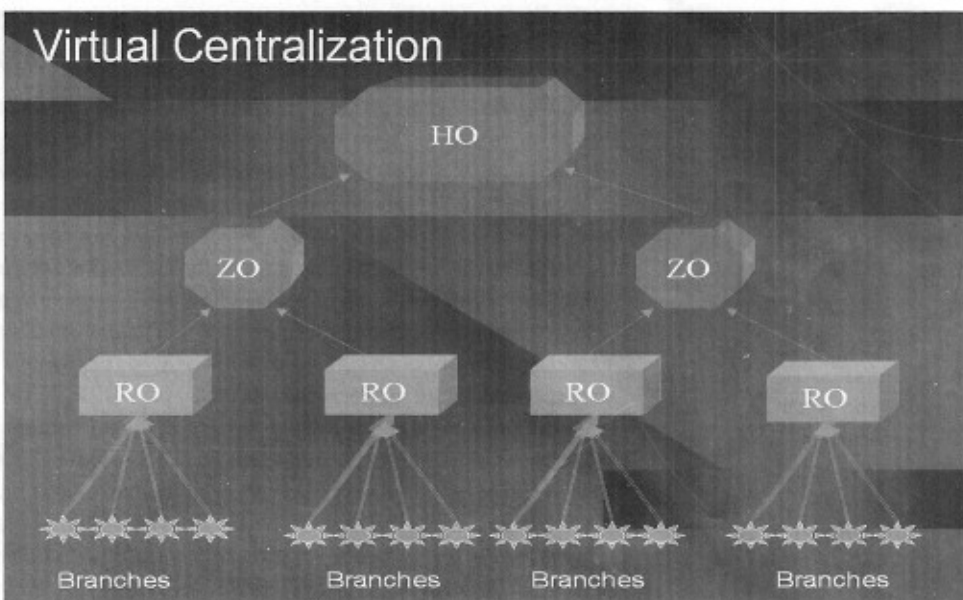
This led to the setting up of new private sector banks. These banks were allowed to open with the condition that they should be technology savvy from day one. This gave a tremendous advantage to these new private banks as they started their operations without any legacy systems. They were given a clean slate and asked to write whatever they wanted, wherever they wanted in whichever handwriting and chalk they chose to. On 11th of April 1994, IndusInd bank was started as the first private bank. These new private banks became competitors for public sector banks and also foreign banks operating in India. So attempts to focus on customer satisfaction started really only 1990 onwards.

Later in 1997 the CVC passed an order suggesting that 70% of the business come under the purview of technology. The measure of the extent of automation was determined by the number of vouchers per day processed by the branch. In early 80s it was 600 vouchers per day that qualified a branch for mechanization. But number of vouchers is not necessarily a reflection of the amount of business.

In the present and future context, the percentage of business under computerisation in a stand alone mode would not suffice the purpose of effective management. It is the management's role and responsibility to become a role-model in the use of IT for establishing standards of performance in productivity and profitability in changing the face of IT-driven banking.

forms to middleware (PRISM-e Switch) to any banking s/w platform of standalone ALPM, PBA, TBA, virtual centralisation, core centralisation solution, ATM/POS connectivity, Internet banking, Any Branch Banking, mobile banking, electronic funds transfers and services such as consultancy, systems audit & e-training, thus covering the entire gamut and spectrum of banking solutions.

Detailing the concept of TSP Padwal said, "Look at the vendors offering banking solutions. There are two aspects to it. Banks don't have enough employees to support the platforms that support technology. Secondly they don't have



PRISM-e Features

PRISM-e is a financial switch or universal financial middleware which

- ❑ Integrates any back end legacy system with any delivery channel, including the delivery channels which are in the process of being invented
- ❑ Is programmable for flexibility
- ❑ Flexible in terms of output channel and input channel
- ❑ Obviates the need to multiple financial switches for different applications
- ❑ Creates and reuses a repository of process models created for various purposes
- ❑ Generates a log database for business intelligence purposes
- ❑ Promotes one architecture on which the bank builds its services
- ❑ Guaranteed One Time, Message Delivery
- ❑ Customized Solution based on the latest Internet technologies
- ❑ Message Acceptance from any legacy System
- ❑ Accepts inputs in sequential file format as well as in the form of database-based entries.
- ❑ Works in both On-line and Off-line Modes
- ❑ Backup Warehouse for Delivered Messages
- ❑ Message Retention Facility in case of Major Failures (like System or server Breakdown, Network Failures, e.t.c.)
- ❑ Continuous Message Tracking Facility
- ❑ Message Re-direction and Message Broadcasting Facility
- ❑ Standardized Reporting For Message Queue T
- ❑ Message Queue Maintenance Module
- ❑ Piggybacking Support for Windows and Netware based systems (The Application and its Database can be physically abstracted with no changes required to be made to the server).
- ❑ Embedded Security Features
- ❑ Manual Enabling/Disabling Feature



enough employees who do the developmental work and support the technology. So the user of technology doesn't have to be a technology expert. So, the strategy is to outsource. But there are two issues to be considered here - Capital investment and return on investment. So the trend is to outsource the headache of maintaining technology systems. That's where ASP comes in. But Zenith is talking about TSP. What is the advantage Zenith enjoys? It has been a manufacturer of computers for the last 20 years. Over a period of time it has already made its mark. It is the second largest PC selling company in the country. Zenith has a product for power protection. It is today in a position to supply various types of applications for all kinds of banks - like partial computerization, total computerization on LAN and Windows platform." No wonder TSP is the USP of Zenith. 