CALENDAR OF EVENTS
November 2005

7 - 10 November 2005

E-Passport Interfest International (Testing/ Conference Event)

Venue: Shangri-la Rasa Sentosa Resort, Sentosa, Singapore
Time: 9.00am – 5.00pm

Between 7 and 8 Nov, Singapore will play host to overseas officials and vendors for the 4th e-passport interoperability testing workshop of the International Civil Aviation Organisation. This will be followed by a two-day business conference on 9 and 10 Nov. The conference track will focus on the latest updates related to e-passports, otherwise known as the biometric and chip-enabled MRTD (Machine Readable Travel Document). The week-long event is supported by International Standards Organisation Working Group 3 of Standards Committee 17 on e-passports, and the Asia IC Card Forum. It is co-organised by IDA, the Ministry of Home Affairs and the Cards & Personal Identification Technical Committee of our national IT Standards Committee.

For more information, please contact:
Mr Ian Monteiro
Executive Director
Image Engine
ianmonteiro@ewet.com or

URL:
http://www.ewet.com/interfest/index.htm

16 - 20 November 2005

World Cyber Games 2005 Grand Finals

Venue: Suntec Convention Centre Hall 6
Time: 4.00pm Opening/Press Conference

800 of the world's best gamers will congregate in Singapore between 16 and 20 Nov and compete for the crown in the World Cyber Games (WCF) Grand Finals 2005. More than 70 countries will be represented at the event, with contestants battling for top honours in both online and console games. This is the first time the WCG Grand Finals is being hosted in Singapore, a sure sign that our island-state is set to play a more important role in the global digital entertainment space.

URL:
http://www.worldcybergames.com

iDA SINGAPORE

The Infocomm Development Authority of Singapore (IDA) is committed to growing Singapore into a dynamic global infocomm hub. IDA uses an integrated approach to developing info-communications in Singapore. This involves nurturing a competitive telecoms market as well as a conducive business environment with programmes and schemes for both local and international companies.

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Singapore wave

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iDA SINGAPORE

Cisco, IDA in $18m collaboration: Pg 4

Networking giant Cisco Systems joins hands with IDA to advance IP networking technologies in Singapore.

Tighter controls on prepaid SIM cards: Pg 2
All prepaid SIM card users must register their details with mobile operators as part of a new government effort to enhance national security.

Tapping on the right frequency: Pg 9
Singapore-based Smart ID hopes to stake its claim in the booming worldwide market for RFID systems.

SINGAPORE TIGHTENS CONTROLS ON PREPAID SIM CARDS

FROM THIS MONTH onwards, users of prepaid SIM cards will have to register their details with the three local mobile operators as part of a new government effort to enhance national security.

The new measure has been introduced by the Ministry of Home Affairs (MHA) in collaboration with the Infocomm Development Authority of Singapore (IDA). The move stems primarily from security concerns over possible misuse of prepaid mobile phone cards by criminals and terrorist groups.

"Criminals exploit the anonymity of prepaid SIM cards to avoid detection. Terrorist groups like the Liberation Tigers of Tamil Eelam have done so too," said Mr Wong Kan Seng, Deputy Prime Minister and Minister for Home Affairs.

"In the region, we have seen Jemaah Islamyah elements using prepaid SIM cards extensively to avoid detection. In Songkhla this April, three simultaneous bombings happened in the evening. All three bombs were detonated using mobile phones, possibly utilising prepaid SIM cards," he added.

To date, there are more than 4.1 million mobile phone users in Singapore, of which 35 percent, or around 1.4 million, are prepaid SIM card subscriptions.

With the new controls, all three mobile operators — SingTel, StarHub and M1 — will have to electronically record the personal details of all customers who buy prepaid SIM cards. This will be mandated in the Facilities-Based Operator licence conditions imposed by IDA. The new system will replace the manual recording process that is currently in place.

As part of this move, existing prepaid mobile users will be required to re-register at retail outlets that sell prepaid SIM cards from their service providers. Subscribers will have to register before 1 May 2006, failing which their prepaid SIM cards will be deactivated.

On top of compulsory electronic registration, the government also introduced a minimum age requirement of 15 for prepaid SIM card purchasers. In addition, customers are now limited to a maximum of 10 prepaid cards each, regardless of the mobile operator they sign up with.

Besides Singapore, Australia, and Switzerland, as well as its Asian neighbours like Malaysia, Thailand and the Philippines have also introduced similar measures.

To register their prepaid SIM cards, users will need to produce the following:

Singaporeans:
Pink identity cards

Singapore Permanent Residents:
Blue identity cards

National Servicemen:
SAF11 B, SPF11 B and SCDF11 B2

Foreign Workers:
Work Permit Identification Cards *(issued from 3 May 1999)*

Foreign Visitors:
Passports

Singapore wave
INFOCOMM NEWS FROM IDA

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WEB SERVICES ADOPTION ON THE RISE

From left to right: Mr Chan Yeng Kit, CEO, IDA; Mr Stephen Lim, Chairman, SiTF; Mr Lin Cheng Ton, Principal & CEO NYP and Mr Foo Jong Tong, Chairman, SiTF Web Services Chapter.

MORE AND MORE local companies are starting to realise the benefits of using Web services to improve their business processes, according to statistics released by the IDA.

Recent IDA figures revealed that the adoption of Web services continues to gain momentum in Singapore, with around 14 percent of businesses here having implemented the technology in 2004. The number stood at 8 percent in 2003. Singapore Airlines, PSA Corporation and OCBC Bank count as some of the early adopters here.

To date, around $70 million have been invested in Web services projects, which spelt a boon for the labour market with the creation of more than 290 jobs. On the economic front, Web services initiatives have also generated infocomm revenue of $450 million in 2004 alone, IDA said.

The statistics come as a booster shot for the IDA as it has identified Web services as one of the key growth engines for Singapore. As testament to the market potential, research firm IDC expects market spending on Web services to increase dramatically over the next five years to reach US$14.9 billion by 2009.

To tap on the market promise, IDA launched a three-year industry development programme called WEAVE (or Web Services Add Value to Enterprises) in 2003.

"The three strategic thrusts of the programme are to seed intellectual capital, leverage Singapore as a living lab and to ensure the development of enabling infrastructure," Mr Chan Yeng Kit, CEO, IDA, said in his opening address at the Weave Seminar 2005 last month.

"The key targets under this programme are: firstly, to drive $120 million investments in the development of Web services; secondly, to train and certify 600 professionals in Web services; and last but not least, to encourage at least 20 percent of companies in Singapore to adopt Web Services. I am happy to report that we are well on track towards achieving these targets," he stressed.

FOCUS ON MANPOWER DEVELOPMENT AND INTEROPERABILITY

TO FURTHER drive adoption, IDA is currently working the ICT industry players to train skilled Web services professionals and to address interoperability issues.

The National Infocomm Competency (NICC) has already launched the Certified Web Services Professional (CWSP) programme to ensure IT professionals are equipped with the skill sets for Web services projects.

"The success of the implementation of IT solutions depends to a large extent on the competency of the IT professionals. Organisations intending to deploy Web Services solutions will need trained and competent professionals to deliver such solutions," said Lee Kwok Cheong, Chairman of the NICC.

At the WEAVE seminar, the first batch of graduates from NICC's CWSP programme received their certification. The centre expects to certify around 500 more professionals as CWSPs over the next three years.

To address interoperability challenges, an SOA (Service-Oriented Architecture) Centre has also been set up last month by Nanyang Polytechnic (NYP) and the Singapore Infocomm Technology Federation. The facility is also supported by IDA and 18 technology companies including Accenture, Cisco Systems, Hewlett-Packard, IBM Singapore, Microsoft, NCS, Novell, Oracle, Singapore Computer Systems, SQL View and Sun Microsystems.

Located at NYP, the $2.5 million facility will allow Web services solution providers to carry out interoperability tests for cross-platform applications such as those that are deployed on both .NET as well as different implementations of the J2EE (Java 2 Enterprise Edition) specification.

"Having such a testing centre in Singapore will not only encourage local solutions providers to conduct more rigorous integration testing between their products and the product suites of IT MNCs. It will also mean that testing costs can and will be a lot lower," said IDA's Mr Chan.

"These objectives are aligned with WEAVE's programme goal of developing enabling infrastructure, where interoperability is one of the main and current issues for Web Services," he added.

CISCO, IDA INK $18M COLLABORATION TO ADVANCE IP NETWORKING

A NEXT-GENERATION INTEGRATED VOICE, video and data network that will provide Singapore with seamless, ubiquitous wired and wireless connectivity — this is one of the key areas being explored in a collaborative effort between Cisco Systems and the IDA.

Under a three-year, $18 million Memorandum of Intent signed last month, the two parties will join hands to advance Internet Protocol (IP) networking technologies in Singapore. With IP-based networks, organisations will be able to introduce additional applications such as Voice over Internet Protocol (VoIP) services over their current data infrastructure.

The MOI was signed by Mr Chan Yeng Kit, CEO, IDA, and Mr Craig Gledhill, Managing Director of Cisco Systems Singapore. The ceremony was witnessed by Mr Charles Giancarlo, Senior Vice President and Chief Development Officer for Cisco.

Specifically, the planned investments will focus on three main areas: encouraging deployment of next-generation networking technologies; the development of skilled infocomm network professionals; and the establishment of a Singapore Solutions Centre to help local enterprises bring their offerings to market.

"Cisco will work with Singapore agencies and organisations to maximise the potential of infocomm investments through the use of IP networking. The collaboration is aimed at enabling Singapore to leapfrog current technologies and cater for future connectivity needs," said Mr Giancarlo.

To support future deployments of next-generation IP networks, the agreement will look at developing and upgrading the skills and competencies of local IT professionals through training and certification. This objective will be achieved through local and overseas industry attachments. In addition, the 20 or so educational institutions currently under the Cisco Networking Academy programme will also be involved in this manpower development effort. More than 600 local infocomm professionals and students will be trained and certified over the next three years under the agreement.

The third area covered under the Cisco-IDA collaboration is the establishment of a Singapore Solutions Centre. The new facility allows local enterprises to develop, test, showcase and market their products and solutions. This will help Singapore become a key developer of IP networking technologies. In addition, the centre serves as a showcase for Cisco's networking offerings and provides a platform for companies in the region to evaluate Cisco products and study the feasibility of implementing them in other Asia-Pacific countries.

Besides helping to advance IP networking technologies here, Mr Chan Yeng Kit, CEO, IDA, said the collaboration with Cisco would also provide valuable inputs for iN2015, a 10-year IT master plan for Singapore currently being formulated by the IDA.

At the MOI signing ceremony (left to right): Mr Charles Giancarlo, Senior VP and Chief Development Officer, Cisco Systems; Mr Chan Yeng Kit, CEO, IDA; Mr Craig Gledhill, Managing Director, Cisco Systems Singapore

IBM GIVES TERTIARY STUDENTS A HELPING HAND

STUDENTS FROM nine tertiary institutions in Singapore will get complimentary access to a myriad of the latest technologies in the course of their studies, courtesy of a new programme kicked off by software giant IBM.

As part of Big Blue's Academic Initiative (AI), about 3,500 local students will be skilled in various open standards-based technologies such the J2EE (Java 2 Enterprise Edition) platform and Linux. In addition, AI will provide students with the know-how for managing emerging areas like grid computing and radio frequency identification, the company said in a statement.

Working through IBM's virtual Centre for Advanced Studies (CAS), the firm hopes that this programme, which offers more than 40 open standards-based technologies for teachers to develop course curriculum, will give students the skill sets that the technology industry would require in the next three years or more.

"Giving students a chance to familiarise themselves with these emerging technologies provides them a head-start in understanding and applying them in future for business," said Ms Patricia Yim, Managing Director of IBM Singapore.

Besides training students, IBM is also seeking to spur joint research with academics under this initiative. The company's CAS facility will support this by offering access to IBM's research areas, technical staff and other resources including its programming source codes.

The nine tertiary institutions joining the AI are Nanyang Polytechnic, Ngee Ann Polytechnic, Republic Polytechnic, Singapore Polytechnic, Temasek Polytechnic, National University of Singapore, Nanyang Technological University, Singapore Management University and Singapore Institute of Management.

Welcoming the launch of this programme, Mr Chan Yeng Kit, CEO, IDA, said: "Both students and trainers alike will be able to benefit immensely with the launch of the IBM Academic Initiative and the Centre for Advance Studies in Singapore."

"The opportunity to interact with the best around the world will not only sharpen our students' skills and creativity; it will also ensure their relevance when they enter the workforce. I look forward to seeing our students apply what they have learnt to produce innovative business applications that help transform our industries, sustain our economic growth and enrich our lives," he added.

NCS SNAGS MILLION-DOLLAR DEAL WITH HK GOVERNMENT

ADDING TO ITS regional customer momentum, Singapore-based IT services provider NCS has been awarded a new e-government deal with authorities in Hong Kong.

Valued at over HK$300 million (S$65.6 million), the contract with Hong Kong's Government Logistics Department will cover the deployment and 10-year maintenance of the Application and Investigation Easy System (APPLIES) and Electronic Records and Document Management System (ERDMS) for the region's Immigration Department.

Once implemented, APPLIES and ERDMS will allow the immigration authorities to provide one-stop application processing services and faster response times to the public, as well as cope with the anticipated growth in workload and support the move towards a workflow-based, paperless environment.

According to an NCS statement, the deployment of the new systems will allow for e-booking of appointments, e-submission of visa applications, e-payment of service fees and e-communication with immigration offices throughout the island. The public can also check the progress of their applications and obtain information electronically, minimising the need for physical travel to immigration offices.

"We are honoured to be part of the Hong Kong government's efforts in turning Hong Kong into a digital society. Together with domain expertise, we have been able to blend this innovative system into the lives of ordinary citizens. Such is the holistic manner in which NCS approaches all of our e-Government projects," said Dr Chong Yoke Sin, Chief Executive Officer of NCS.

This announcement comes hot on the heels of another high-profile overseas customer win for NCS. In August this year, the firm snagged a S$10 million contract to design and provide Intelligent Building solutions for Bahrain's 50-storey World Trade Centre.

CITIZENCONNECT TO BRING GOVERNMENT E-SERVICES TO THE MASSES

CHECKING CPF ACCOUNT BALANCES, e-filing tax returns and renewing roads taxes online — these services may be familiar to more technology-savvy Singaporeans but a large portion of our citizens may still be unfamiliar with engaging in such online transactions.

To extend the convenience and the benefits of e-services to all, the Ministry of Finance (MOF), People's Association (PA) and its grassroots organisations last month launched a pilot community project called "CitizenConnect". The project seeks to provide an easy and convenient way for the public to transact with the Government through the Internet.

Currently, more than 98 percent of all public services that can be delivered online are already available on the Singapore Government Online portal and the CitizenConnect project aims to take this a step further.

The programme involves building a network of PCs located at Community Clubs (CC) throughout the island. The stations offer free Internet access to citizens and provide links to a host of online government services. Helpers are also on hand to offer assistance to those who are not familiar with using government e-services.

CitizenConnect kicked off with a one-year pilot programme at five Community Clubs. Two of these — Serangoon Community Club and Pasir Ris East Community Club — have been unveiled last month. The three remaining locations will be ready by the end of this year.

"Beyond attending courses and participating in social activities at the CC, residents can now use the CitizenConnect service to access government information and services, " said Mr Brian Lincoln, chairman of the Serangoon Community Club Management Committee.

The renewal of HDB or URA season parking tickets, payment of library fines and even application of business licenses are amongst the other 1,600 online government services that are available to Singaporeans.

"Such a service brings not only greater convenience to the residents but also the physical presence of official personnel to assist those who are in need of transacting or searching for information about the government electronically. Transactions with the government will no longer be confined only to those who are Internet savvy," said Dr Ahmad Mohd Magad, MP.

SINGAPORE CLASSROOM TEACHING GOES 3D?

The ability to create 3D graphics and animation used to be confined to professionals or specialised students from tertiary institutions. However, if an IDA-supported initiative kicked off by Temasek Polytechnic and IM Innovations last month proves successful, secondary school kids or younger could soon be spicing up their presentations with snazzy visual treats.

Called the Virtual Paper Napkin (VPN) programme, the project aims to increase student interest in 3D applications and train them in the development of simple graphics and animation. To date, three schools-Admiralty Secondary, Canberra Secondary and Anglo-Chinese School (Independent) School-have signed up for the VPN pilot programme.

According to Temasek Polytechnic and IM Innovations, the VPN project has made learning so simple that 13 and 14 year-olds have been able to use 3D graphics in their school-related projects after just 30 hours of training. In one school, students have even created an animated 3D Singapore flag which is used during school assembly on rainy days. By incorporating 3D graphics in classroom presentations, students will benefit as it helps in the explanation of abstract and complex concepts.

"The pervasive use of computer animation today in entertainment and many economic industries presents an opportunity and a challenge for us to grow a strong pool of skilled talent of 3D visualisation and computer animation professional users and developers to meet the demands of these industries," said Mr Khoong Hock Yun, Assistant Chief Executive, IDA.

"IDA realises the importance of cultivating early interest amongst students. It is important to expose students to new industry trends, applications and growth areas in order to seed their interest in these future career paths," he added.

As a sign of confidence in success of VPN training programmes, the Singapore Science Centre has even devoted a gallery for showcasing these 3D projects.

In conjunction with the launch of the VPN programme, Temasek Polytechnic also unveiled its new 3D Media Studio which was set up in partnership with IM Innovations.

The new centre will support VPN curriculum development and training for related projects. Beyond VPN, the 3D Media Studio also offers expertise to industry professionals and serves as a facility for proof-of-concept 3D visualisation projects. It is also the only authorised training centre for Maxon Computer GmbH's "Cinema 4D" and "BodyPaint 3D" software in the ASEAN region.

Besides the IDA and the Singapore Science Centre, the VPN initiative is also supported by chipmaker AMD, the Centre for Advanced Media and Technology, as well as Maxon Computer GmbH. In particular, AMD has donated 21 high-end 3D graphics workstations running on its Opteron processor to the new 3D Media Studio.

MOBILE MALWARE GETS SERIOUS?

These days, it is rare to find anyone who doesn't have a mobile phone or PDA. But the proliferation of these gadgets is increasingly making them attractive targets for malicious hackers.

According to security software experts, the number of viruses targeting mobile devices such as smartphones has shown a marked increase in the last two years. One of the alarm bells that the PC user's recurring battles with malware could be translated to the mobile realm was first sounded by the Cabir worm, discovered in June last year. The worm spreads via Bluetooth and infects phones running on the Symbian operating system. However, this was largely a proof-of-concept virus and with little impact on Symbian phone users.

By the end of 2004 however, six viruses targeting mobile devices have been uncovered by Trend Micro's global antivirus research and support centre. Among these, there was the CommWarrior threat, a Trojan horse program targeting Nokia's series 60 handsets. Unlike most of its predecessors which relied on using Bluetooth alone to spread, CommWarrior also uses Multimedia Messaging in a bid to infect more users.

These attacks are also evolving and some mobile malware are even using smartphones as a conduit to target PCs, Trend Micro warned. For example, the SYMBOS_CARDTRP virus, discovered in September this year, was aimed at Nokia's Series 60 handsets but had the ability to spread to Windows-based computers. Once activated on the PC, the virus would then attempt to spread to other computers.

According to Mr Ang Ah Sin, Regional Marketing Manager for South Asia at Trend Micro, Singapore has not been spared by the mobile mayhem. 168 local users were hit by the SYMBOS_QDIAL virus, a cracked version of the Mosquitoes game which runs on the Symbian Series 60 platform. The malware can be downloaded through the Internet or Peer-to-Peer file-sharing networks. Once executed, it sends an SMS message to specific premium rate numbers and charges the affected user for the call. There are still instances of the virus popping up here, Mr Ang added.

Symantec's Mr Tim Hartman, Senior Systems Engineer Director, Asia-Pacific and Japan (Enterprise Security Solutions) says that Symbian and Windows-based mobile devices are targeted as they are amongst the most prevalent operating systems. According to Mr Hartman, mobile malware is moving beyond proof-of-concepts and may pose a more significant threat. He said like the rest of the IT sector, more attacks can be expected when the monetary returns become a more compelling push factor.

Despite the spike in mobile malware, users can take simple precautions to protect their mobile devices. For Bluetooth-enabled devices, Trend Micro's Mr Ang said users should observe the following precautions:

1. Check if the phone is open to known attacks, and install available software patches to close these vulnerabilities
2. Never "pair" with an unknown device or respond to any pairing request that users have not initiated themselves
3. Never pair in public places as the PIN can be "sniffed" and cracked
4. Use long PIN codes for pairing as they take a longer time to crack
5. Always set the phone in non-discoverable mode (not visible to other devices) whenever possible
6. Turn off Bluetooth when not required
7. Never use Bluetooth if not required

REPORT: LCD DISPLAYS TO BECOME MAINSTREAM BY NEXT YEAR

WHEN IT COMES to computer displays, Asia is going "thin" in a big way, according to a recent report by research firm IDC.

In its latest study, the company said sales for LCD (Liquid Crystal Display) monitors are expected to overtake conventional CRT (Cathode Ray Tube) displays by as early as the first quarter of 2006.

Excluding Vietnam, IDC said overall monitor sales in the Asia-Pacific region totalled 18.4 million units in the first half of 2005, a 14.4 percent increase from the same period last year. The outlook for the market is positive, despite a forecasted decrease in CRT monitor sales, IDC said.

"Although the CRT form factor across Asia-Pacific is expected to see a 4.3 percent decline in CAGR (Compound Annual Growth Rate) through to 2009, the healthy LCD growth will be more than sufficient to offset the CRT decline, resulting in the overall region posting a forecasted 6.4% CAGR over the same period, "said Mr Reuben Tan, Senior Analyst for Personal Systems Research at IDC Asia-Pacific.

"Despite vendors facing spot shortages of mainstream LCD panels, overall LCD supply across the region is expected to ramp up and exceed demand from 4005 onwards. The oversupply may exist until the next major round of price cuts for large screen LCD monitors, which will in turn create accelerated uptake," he said in a statement.

On a country level, the demand for monitors in Singapore is expected to slow down from next year onwards. This is because of the high penetration of LCD monitors that are bundled with new desktops, IDC said.

In India, Indonesia and Philippines, annual growth rates are expected to be positive for CRTs through 2009. Robust uptake in the government and education segments in Australia, Malaysia, Taiwan will also boost overall monitor sales in the remaining months of 2005.

INFO BYTES

SINGTEL RECRUITS FORMER CISCO MD

SingTel has appointed Mr Bill Chang as its Executive Vice President of Corporate Business. Effective this month, Mr Chang will oversee SingTel's Corporate Business serving both domestic and overseas customers. Prior to joining SingTel, Mr Chang was the Managing Director of Cisco Systems' Advanced Services Group in Asia-Pacific.

STARHUB AIMS TO PLAY HOST TO GAMING COMPANIES

StarHub has launched a new content collaboration programme to encourage online gaming companies to make Singapore their hub for Southeast Asia. Under the initiative, the company will provide interested companies with end-to-end high-quality connectivity through its Tier-1 Internet exchange. According to StarHub, game publishers and service providers will have the flexibility to decide how best to manage their own gaming networks. In addition, they will also enjoy marketing support by leveraging StarHub's mobile, cable television and broadband networks.

SMART ID AIMS TO TAP ON THE RIGHT FREQUENCY

RADIO FREQUENCY IDENTIFICATION (RFID) has been making waves as the future of inventory management technology and Singapore-based Smart ID is hoping to stake its claim as a key player in this booming market.

Unlike barcodes, RFID-based systems do not require line-of-sight scanning and holds the promise of allowing companies to have precise information of stock levels by incorporating RFID antennas, transceivers and transponder tags into their supply chains. The technology has so far received the backing of major retail and logistics players globally and in Singapore. In the United States, Wal-Mart and the Department of Defence count as some of the early adopters while local examples include the National Library Board, the Land Transport Authority, NTUC Fairprice, YCH and BaxGlobal.

First established in 2003, Smart ID specialises in providing Wi-Fi and RFID-based solutions. According to Mr Dan Lee, the firm's Managing Director, one of the factors behind the company's success is its willingness to adapt and customise offerings to individual client's needs.

The WiFi Trekker, a wireless hotspot detection device, is one of Smart ID's flagship products which received worldwide acclaim, stemmed from this mantra.

"We have always been open to what our customers want. Some said that they were tired of having to switch on their notebooks to see if there was a wireless access point that they could connect to so we came up with this to meet their needs," Mr Lee explained.

The same principle is also responsible for the popularity of the company's RFID products, he claimed.

"Our RFID solutions are tailored to meet our client's specific needs," Mr Lee stressed. For example, one of Smart ID's customers is conducting a trial to see if a customised RFID system would help optimise inventory management.

"As a leading consumer retailer, they need to effectively manage inventories at their different outlets and counters. With our solution, they can track the product as it is being shipped, from manufacturing plants overseas to retail counters, and to the point when it is sold and leaves the store," he said.

Beyond using RFID systems for inventory tracking, Smart ID is also testing the technology for use in car parks. Mr Lee pointed out that the advantage RFID has over existing technologies is the greater range offered.

"Rather than needing a car to drive up to the barrier, the ID tag on the car can be read up to four metres away using high-frequency RFID, so that when the car reaches the barrier it is already up. This helps to improve traffic flow," he said.

Left to right: Mr Dan Lee, Managing Director, Smart ID, along with company founders Mr Goi Sio Peng and Mr Ang Chip Hong.

However, he acknowledges that there were security and privacy issues when the technology was first introduced. With RFID's ability to capture precise inventory information, consumers, especially those in the US, have expressed concerns that the technology could be used to monitor shopping habits and even for location-tracking.

"People don't really need to be concerned about privacy issues. While it is true the readers can capture the items in your shopping cart, the data captured is not referenced to a name or person. It is more to determine the items being sold, for inventory management," he explained.

Mr Lee added that when company first started out in 2003, the market was not primed for RFID adoption. However, the scenario has changed in the last few years.

"With RFID getting more mention in the news and as companies are becoming aware of its possibilities and available solutions, we feel we are on the verge of greater RFID adoption," Mr Lee said.

EYE TO EYE: AD NEDERLOF, CHAIRMAN (GENESYS TELECOMMUNICATIONS LABS)

BECOMING CUSTOMER-CENTRIC IS THE KEY TO BETTER SERVICE

IN TODAY'S FAST-PACED WORLD, consumers are demanding instant service. Their expectations of the service levels they should be receiving are getting higher and higher and many companies and even governments are finding that they need to work harder to satisfy the heightened demands.

This observation came from Mr Ad Nederlof, Chairman of Genesys Telecommunications Labs, one of the world's leading call centre software developers.

According to Mr Nederlof, some businesses feel that taking time to satisfy a customer's needs might end up costing them more money, but he points out that this is not necessarily the case.

"If it takes one extra minute talking to the customer to help solve his problem, then take that time to do so," Mr Nederlof said. "It's more cost-efficient to take the extra minute to solve a problem over the phone than to send a technician over to do it for you. Good service will actually save you money in the long run."

In this regard, he cautions against the approach some call centres take in assessing their telephone operators based on the time spent per customer. Instead, the measure should be based on customer satisfaction or loyalty, he said.

To become a customer-centric organisation, Mr Nederlof said the company needs to ensure its vertical internal departments are broken down so that everyone understands that they represent the "face" of the company, regardless of the their position in the corporate hierarchy.

"All employees, from the contact centre call operators to the accounts staff, to the sales staff must all realise that they need to put the needs of the customer first. The customer is the one who pays for their wages and if the customer is unhappy and takes his business elsewhere, they will be the ones to eventually lose out," he cautioned.

Mr Nederlof cited Merrill Lynch as an example of a company that has successfully implemented a customer-centric approach in its business. Every worker in the company has to experience working in different departments within the firm. This is to ensure that staff members are familiar with the operations of Merrill Lynch as a whole. When emergencies strike, such as a power outage or natural disasters affecting the call centres, all the staff, from senior management to junior staff, are able to man the phones and help answer questions and reassure customers.

He further cautioned companies against choosing the location of their call centres based on costs alone. This is dangerous, he said, adding that some businesses that have chosen to plant their call centres in lower-cost countries have come to regret their decisions. This is because they soon realised that customers were complaining about the level of service they received, Mr Nederlof explained.

He added that the only way for a company to maintain an adequate level of service is for them to maintain control over these overseas call centres.

While companies can take advantage of the lower wages in some countries, they should set up their own call centres and train the local staff to deliver the expected levels, he stressed.

PASSIVE OPTICAL NETWORK (PON)

With the proliferation of broadband services in Singapore, consumers can now enjoy megabit access to the Internet as well as other services like Net telephony and online gaming. However, once an emerging technology called Passive Optical Network (PON) kicks in, the concept of high speed Internet could be elevated to a whole new ground.

PON is the latest buzzword in the telecommunications space and it promises high speed access capabilities of up to gigabits of bandwidth for end users that are connected to a passive communication infrastructure.

In a nutshell, PON comprises Optical Line Terminal (OLT) at the head end, Optical Distribution Network (ODN) and Optical Network Terminal (ONT) at the user end.

ODN represents distribution of fibre network via passive optical splitters. The typical optical split is 1:32. The optical power is effectively halved for every split along the optical path. OLT interfaces to the ingress of ODN while ONT interfaces to the egress of ODN. OLT and ONTs are generally connected via a point-to-multipoint topology.

One key feature of PON is transmission of upstream and downstream traffic via multiple wavelengths over a single core of fibre. The downstream traffic from OLT to ONT is broadcasted over a single wavelength (1490nm) while the upstream traffic from ONT to OLT is transmitted via another separate wavelength (1310nm). Upstream bandwidth allocation for each ONT is implemented via designated bandwidth time-slot. A third and optional wavelength (1550nm) is currently being used for downstream analogue RF video transmission.

PON has undergone several generations of development. The earliest PON variant is APON, followed by BPON and will eventually evolve towards either EPON or GPON. EPON (specified by IEEE802.3ah) supports symmetrical bandwidth of 1.25Gbps while GPON (specified by ITUG.984.x) supports symmetrical bandwidth of 2.5Gbps.

In the global development scene, we have seen that the regional telecommunications companies in the United States are actively exploring GPON while their counterparts in Japan and Korea have already initiated mass deployment of EPON.

PON has numerous benefits which can be considered as an option for last mile access network. One distinct advantage of PON is the elimination of active electronics along the optical distribution path. In a typical high-rise building, a cluster of 32 users can be reached without the need for power supplies along the risers of a building. With no active equipment along the distribution path, there is correspondingly reduced maintenance and operational overheads. Support of triple-play via a single core of fibre and passive optical distribution network can effectively reduce the complexity of the overall required active equipment. Although PON is a shared infrastructure, the traffic stream from each user is encrypted and hence information is not exposed to unwanted intruders.

With PON as a viable last mile access option, bandwidth-intensive services, such as Video on Demand with High Definition content (which can easily consume up to 20Mbps per stream), can be something that Singaporeans can look forward to in the near future.

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