

TECH INDIA'S NEW WATCHDOG



Thanks to our security concerns, the physical security & surveillance market in India is thriving. The IT channel fraternity and solution providers too have started leveraging the benefits

Across the globe, countries have time and again raised security concerns over monitoring not just the borders and territorial waters, but securing their installation bases and related areas of focus. The need for monitoring is not just limited to the government and nation alone, but it has penetrated deep into the business front also.

It all began with the banks implementing surveillance systems across their branches and ATMs followed closely by the industrial sector. The PSUs, however, were the early adopters of the analog CCTV system, implementing it in as early as mid 90s, especially in the dam build-ups and thermal power units.

THE TREND OF IP CAMERA

Gradually, video surveillance and its related security factors have moved to the forefront globally, as a strategic tool in protecting corporate assets, war against terrorism, crime prevention, and public safety. At the same time, video surveillance usage has increased as a tool for traffic monitoring and local government security.

Besides, the 'grainy days' of the CCTV are on the verge to evolve into a full-fledged IP camera installation system. These have been replaced by advanced digital IP cameras and systems producing high-resolution, high-definition, real-time video. "The

trend is that customers are gradually shifting their focus towards IP cameras and the success can be attributed to the dynamic adoption of legacy and IT policy of the enterprise customers. Besides the fact that IP surveillance provides superior image quality and resolution, it also can be monitored across locations," said Shrikant Shitole, VP—transformation business, Cisco India and Saarc.

The new-generation IP-based video technologies displacing analog CCTV systems, use high-definition, high-megapixel cameras and high-quality lenses to produce full-motion, real-time video. The need to have clear, high-resolution, real-time video demands high-speed IP to ensure uninterrupted quality. An IP video surveillance system consists of multiple cameras connected to video storage servers recording and processing video streams, and an operations center or hub where video is displayed and monitored on a real-time basis. True to the fact, most of the vendors in this space are opting to shift their focus from analog cameras to IP installation solutions with solution providers in the networking domain taking the 'big leap forward'.

"The emphasis has been towards high feature integrated security systems involving analytics and high-definition video technology over the last few years. Markets such as India adapt faster to changes and are moving

directly to networked systems. Integrated systems working on the Internet Protocol (IP) mode of communication are likely to see a significant growth in coming years. The solution centered on one common software is likely to be the future," added Vikas Chadha, director, Honeywell Security, South Asia supporting the claim of IP surveillance on its way to top the charts.

IP security and surveillance cameras feature 360-degree pan-and-tilt capabilities and are controlled remotely from an operations centre. To support the IP video network and enable remote camera control and operation, a high-speed IP/Ethernet network is required with its design and functionality tailored to IP video applications. Also, there are many types of fixed or adjustable cameras suited for many applications in accordance to an organizations legacy and IT policy.

Nevertheless, CCTV continues to remain a top priority when it comes to banking, airport security and town center establishments to monitor the movement. The primary advantage which CCTV enjoys is the comparative low-cost of initial setup and the non-requirement of high bandwidth. The CCTVs are connected together by cables or wireless transmitters that cannot be received by standard television aerials or equipment. Transmission of the video signals are

solely intended to be reachable by the equipment on its committed closed circuit setup.

INNOVATIONS ACCORDING TO REQUIREMENT

However, with IP surveillance becoming the top priority for the vendors, technology is also on the mode of evolution with numerous products on the float. "The vertical has some very specific requirements that the technology should meet. Cameras should be able to provide world-class imaging and real-time viewing experience by adopting progressive scan with day and night capability and multi compression technology," Chadha said.

High-definition resolution is almost three times of the standard resolution along with similar bandwidth requirements. The cameras should also be able to provide optimum performance for both indoor and outdoor installations. "Inbuilt IR is always the need of security conscious customers. It is prominently the desire of the end-users which would help to capture video images even in a pitch dark scenario for critical applications like server rooms, correction facilities, warehouses and others. Open standard IP cameras based on PSIA/ONVIF is the need of the hour which gives flexibility to make cameras inter compatible with various IP software/NVRs," Chadha added.

NETWORKING VENDORS LOOKING AT SECURITY & SURVEILLANCE AND VICE-VERSA

- Today, most of the networking vendors are getting into the security & surveillance space. In fact, they are slowly eating up the pie of traditional physical security players.
- For example, Webcom, a Bengaluru-based traditional networking infrastructure solutions provider, has forayed into security & surveillance space in the last 3 years. Today, it is making rapid strides in the field of IT as a provider of complete IT infrastructure as well as security and surveillance.
- Even the networking major, D-Link, has moved in a new direction from its traditional networking business into making significant investments in the IP surveillance technology. The company is even encouraging the traditional resellers to consider this burgeoning market and take advantage of the potential opportunities.
- Even the likes of Dax Networks, a Chennai-based networking company, has launched a range of IP network video surveillance solutions. Apparently, the networking VARs are also jumping into IP surveillance and IP security bandwagon.
- Similarly, the security and surveillance vendors are now looking at the networking space. Earlier, security and surveillance used to be the part of any organization's physical security department. The people responsible were not much aware of the technologies and that's why only analog cameras were used before.
- Today, from the physical security department, the responsibility is moving towards IT, as the installation of these surveillance solutions also require a lot of networking components like switching. And today, these solutions are more or less IP-based.
- The storage requirements are brewing up as well. The traditional surveillance players didn't understand these nuances. They were just familiar with the DVR where everything was recorded on a dedicated box. But now, with the advancements in technologies like NAS and need for storage requirements, these vendors have started looking at the networking space very seriously.
- Traditional surveillance vendors used to discuss or rather look at it only as a physical security. Now, since technology upgradation has taken place with the coming up of IP, they have also started understanding networking and moving into this business as well.
- Meanwhile, whoever adopts the technology faster, will have an edge over the other.

As a measure to meet up to the latest consumer expectations, Honeywell has improvised its product range dramatically offering 4 distinct dome cameras. "High-Definition Dome and Box Network Cameras provide world-class imaging and a real-time viewing experience by adopting progressive scan with day and night capability and multi-compression technology. These cameras provide cost-effective network surveillance for a broad range of applications which ensures optimum performance for both indoor and outdoor applications," Chadha said.

On the other front, Dax Networks also has a product range in 4 distinctive

categories; namely, Fixed Box or Cube Cameras, Fixed Dome Cameras, PTZ Cameras and High Speed Dome Cameras. Elaborating on the product range, Subhashini Prabhakar, chief technology manager, Dax Networks said, "Cube cameras are an ideal choice to monitor a very specific area or direction and are best suited for indoor applications while the Fixed Dome cameras are better suited to provide unobtrusive surveillance for both indoor and outdoor applications." She added, "Megapixel Cameras with a progressive CMOS sensor makes it sensitive to the slightest movement. It gives an accurate and detailed image. These cameras are best suited for



LEE OH TEE, Axis

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DR YV VERMA, LG Electronics India

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indoor and highly secured outdoor applications as it covers wide angles. These cameras can be used in warehouses, banks, shopping malls and retail shops.”

As a trend amidst vendors, it is noticed that most of them are primarily focusing on dome variants and box cameras besides a regular concentration in PTZ. However, on the software part, LG has taken a market lead with its patent NVR. "Besides our range of cameras, LG has its self-developed NVR software and we have EDGE-based VCA (Video Content Analysis) like tripwire, people counting, object removal, crossing line and tampering solutions," said Dr YV Verma, COO, LG Electronics India.

With innovation being the key driver for all technological advancements, the growing market of security cameras is witnessing innovations at a fast pace. The latest products in the market encompasses around remote IP surveillance, centralized IP surveillance, video analytics over IP surveillance, use of wireless IP security and mobile IP surveillance, besides the normal trend to focus over megapixel and HD resolution. Availability of onboard storage and computing power has heightened the interests of application developers towards building more open intelligence on the device level itself.

"Axis has already launched the Axis Camera Application Platform (ACAP) on its latest cameras and we already see a few over-the-shelf applications available. Embedded or onboard applications like tripwire/people counting/traffic density, etc. will help build more value around the solutions being provided," said Oh Tee Lee, regional director, South Asia Pacific Region, Axis Communications. "As the market moves ahead on technology,

we will see very little differentiation at the products level, since the USP will now shift to the application level. From a user perspective, it will mean solutions will be delivered after translating product features in to user requirements. This will mean more and better adoption of open standards. 2011 will probably be the most defining year for ONVIF as this allows application developers to save a lot of development costs by integrating ONVIF products around their solutions," Lee added.

Thermal imagery also has found a foray into applications as it is non-reactive to environmental conditions like illumination levels, snow, haze, smoke and camouflage. This helps in reliable information and may also prove to be a boon for analytics providers who face a challenge of performance degradation on visible video in certain conditions. Besides, according to the surveillance major, as a future trend, SaaS (Surveillance as a Service) model is a trend that many manufacturers are hopeful will help them get in SMB or the residential market, which is still predominantly analog or dominated by low-end manufacturers. The challenges here are mostly on the business model or RoI related and not technology oriented.

Also, while elucidating about the latest trend in video surveillance, Shitole said, "The increased sophistication of video analytics is another driver for this growth. Software and systems, which can rapidly identify anomalies and help with the detection and, sometimes, prevention of crime, have encouraged companies that would otherwise not invest in video surveillance to purchase systems, especially in the utility industry."

"The latest technology which our industry is experiencing, is how to

integrate SD cameras with HD cameras and to offer a complete solution. The revolution is VCA, an EDGE-based VCA that means the algorithm is on the camera," Verma added. However, it is mobility which is the new buzzword in the realm of surveillance. The IP video technology and mobile control has increasingly become mainstream today, but the current consumer trends in security industry are not limited to IP cameras only, because IP cameras are only one part of the overall solution.

"In IP market, customers are seeing IP solutions beyond their video surveillance needs. They are looking more for a complete integrated solution, which helps users with faster response and prompt action from the systems," Chadha opined.

THE OVERLAPPING VERTICAL

Although much advancement and innovation is being carried out by the vendors backed by their urge to grow, what are the verticals which are mainly opting for surveillance solutions? According to Shitole, "Every vertical is a possible customer because of their urge to monitor, supervise and remove security anomalies. At Cisco, we take the 5-fold approach of prevention, detection, assessment, response, monitor and preparation to offer our solutions and have developed our product lines on this approach," Shitole emphasized.

On the vertical analysis, although the government was an early adopter of surveillance systems through its PSUs (dam and thermal projects) and government installations, educational institutes and banks along with small-scale SMBs (primarily dealing with precious metals and stones) seems to be the new growth drivers. "We focus on every segment and have proper solutions in place to address individual concerns, but on a revenue scale, large format and mid-size enterprises along with the government, accounts for the primary vertical," said Subhasish Gupta.

country manager—India and Saarc, Allied Telesis.

Also, adding to it, Prabhakar said, "We expect the government and defense forces to further increase investments in surveillance system and a renewed impetus from medium-sized commercial enterprises with multiple locations such as banks, hospitals, retail shops, factories, real estate construction sites, restaurants, and malls."

Infrastructure development is going apace across India and with it comes a demand for security. IP surveillance is emerging as one of the most compelling investment areas, creating a whole new market for networking resellers and integrators. "The typical customer for video surveillance includes police for city surveillance, sensitive infrastructure projects like power plants, airports and seaports etc. We are seeing growth trends in the private sector, in national retail chains, especially jewellers, boutiques, educational institutions and related segments," said Anand Swaminathan, director—product and solution, Zicom Electronic Security Systems.

For Honeywell too, the scenario appears to be the same. "The retail sector also holds potential for surveillance solutions, with the advent of intelligent capabilities in cameras which can help analyze the customer behavior that can be mapped for business efficiencies. With the mushrooming of numerous self-service kiosks and ATMs in the country, remote monitoring solution for the banking sector also assumes importance," Lee emphasized.

A HEARTY FUTURE

With the recent emphasis on the Mumbai terrorist attacks and the rise of security breaches including trespassing, theft and related criminal activity, enterprises as well as the SOHO segment is on the rise of accepting surveillance as an essential component. Further, the incoming of the 3G



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spectrum is supposed to boost the scenario. "Following the November 2008 attacks in Mumbai, all quarters of society, including the government, businesses and individuals are investing significant amounts in installing and upgrading their security infrastructure. The heightened awareness is providing an added boost to the security and surveillance systems industry, which has historically grown at 20-30% annually," Prabhakar said.

According to the 2010 edition of the IMS Asia report, the total market for video surveillance in Asia is estimated to have been over \$3.3 bn in 2009 and is forecasted to grow at a CAGR of 15.2% over the next 5 years to be worth over \$6.7 bn in 2014. The network video surveillance equipment market was estimated to have been worth \$511.4 mn in 2009 and is forecasted to grow at a CAGR of 32.8% over the next 5 years to be worth over \$2.1 bn in 2014.

THE SP OPPORTUNITY

With the immense opportunity and the optimistic predictions drawn, the stage is all set for the solution providers to make their mark in this realm of evolving technology. However, as a trend, it was noticed that most of the solution providers specializing in the networking domain have gone for experimenting with surveillance setups and are trying to transform their business focusing over this factor.

On the other hand, vendors too have taken a step forward and are collaborating with mainstream IT solution providers. "There are capabilities (among SPs) which

we need to understand properly while appointing our partners. We go for appointing a mix of partners in accordance to the need of the place as well as the target vertical," said Gupta.

Also, Axis Communications has taken this approach and like most other vendors is keen on penetrating the tier-2 and 3 cities. "Axis's main focus in India will be to foray into the tier-2 and 3 cities, to expand our partner networks and focus on partner education and training to keep them updated on the company's latest technology. Currently, we have over 735 certified channel partners in India and we intend to expand this figure to 1,000 in the coming year," Lee highlighted.

For LG too, the company has set up a very strong criterion to select its partners on the basis of their capabilities in a given vertical. "We have also announced a partner program for the security industry known as SPP (Security Premier Partner). Today LG has a strong network of 80 partners across the country which is growing very fast," Verma added.

Similarly for Zicom, the company focuses over partners who have the potential to understand security and have good technical resources to support the customer's need. "We avoid pure-play box movers since security products still need plenty of hand-holding both at partner levels and end-user levels," Swaminathan said.

With the stage clearly set, with the vendors thrusting more over innovation and looking for a complete solutions-based strategy when selecting their channel partners, the solution providers may find it lucrative to venture more into this space.

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