International Institute of Security & Safety Management

Let's professionalize the professionals…

Newsletter of NCR Chapter : January 2007

Central Monitoring Stations

The alarm monitoring and response is very complex and tedious function of security management. Fraught with False Alarms and resource-mobilization, alarm monitoring also means that systems need to be constantly upgraded and procedures checked. There is also need to constantly audit the efficacy of the system, return-on-investment and the integrity of the data for very efficient alarm monitoring. Since all these activities occupy lot attention and priorities of the organizations, the forward looking managements started off-loading these activities to third-parties – specialist in the field. This turns out to be cost effective and very dependable option which enhances the level of security preparedness.

Spearheading this phenomenon are few security agencies in some metros where they established their Central Monitoring Stations. These metros cater to big offices, industries as well as individual residents who wish to avail their services. Lead article of this newsletter is on the subject of establishing Central Monitoring Stations.

The recently concluded IISSM Annual Seminar was grand success in which Chapter Members also participated whole-heartedly. It is also matter of immense pleasure and pride that two of our members namely Shri Sanjeev Sehgal and Shri Rajiv Mathur were honored by Shri Shivraj Patil, Union Home Minister of India as "Best System Integrator of the year" and "Emerging Security Professional of the Year" respectively.

There were host of new prizes introduced this year including the "Ved Prakash Tyagi Rotational Trophy" for 'Best Security Professional of the Year" carrying cash prize of Rs. 5000.00 (Detail of these prizes are available on IISSM website**). It is sincerely hoped that next year trophy is won by the member of NCR Chapter!**

Happy & Prosperous New Year!

Capt S B Tyagi, FISM, CSC
For NCR Chapter, IISSM

Winner all the way!

Rajiv Mathur: “Emerging Security Professional of the Year”

Shri Rajiv Mathur was awarded as the “Emerging Security Professional of the Year” by Shri Shivraj Patil; the Honorable Home Minister in a well attended glittering ceremony on 23rd November 2006 at Hotel Le-Meridian, New Delhi during the annual seminar of IISSM.

He is a seasoned professional with about 15 years of experience in the industry. A Management graduate in Human Resource and Marketing, he has also acquired additional qualifications in the field of Information & Systems Management.

As spearheading the activities of **Vision Security**, he believes in Knowledge based management of a field force of about 5000 security personnel and 16 offices across India. He has been instrumental in getting ISO certification for the organization. Training is the key interest area and has presented papers on various subjects at different national & international platforms.

A keen learner with dedication & innovation as the success mantra; is also called “The Professor” by his friends and colleagues. He is also Joint Secretary of the NCR Chapter of IISSM.

Transitioning Alarm Monitoring from In-House to a Third Party!

A monitoring center must provide timely, consistent, high-quality services utilizing state-of-the-art technology to customers 24 hours a day, 365 days a year. Keeping pace with the changes in technology and maintaining alarm system data integrity were crucial to maintaining goal of providing best-in-class alarm monitoring service.

In addition to equipment needed, enhancing alarm data integrity is also necessary to ensure the highest level of security is continuously maintained. The planning phase may include five critical elements which would become foundation to successfully convert in-house alarm monitoring platform to a third-party supplier:

- Transition team identification
- Decision process to determine the service provider
- Project planning
- Implementation
- Post implementation (continuous improvement)

Transition Team

To successfully convert alarm monitoring to a third-party supplier, a transition team of customer-focused leaders may be selected to design, analyze, and implement the alarm monitoring transition project. In addition to loss prevention, transition team is to include stakeholders from the following departments: procurement, finance, business unit leaders, IT, real estate, legal, facilities, and operations etc. This team must meet regularly, defining the objectives, building success criteria, creating performance metrics, and representing the organization to ensure a seamless transition of alarm monitoring.

Any plan for the alarm monitoring transition may include:

- Understand the buy – interview stakeholders
- Establish operating procedures for supplier
- Develop draft scope of work for review by stakeholders
- Present sourcing strategy (scope of work, list of suppliers, and timeline)
- Develop, distribute, and analyze request for information
- Complete supplier bid meetings and site visits
- Suppliers complete and return request for information
- Present request for proposal (RFP) supplier short list recommendations to stakeholders
- Analyze RFP
- Negotiate with suppliers
- Present overview to stakeholders
- Notify suppliers and stakeholders of contract award
- Execute contract
- Develop performance metrics
- Establish quarterly performance meetings to review and track performance metrics

Determining the Service Provider

Collectively, transition team needs to identify suppliers that provided the most comprehensive, customer-focused capabilities. Criteria for a successful service provider are as following:

- Fitness to technical and functional requirements
- Total cost of ownership
- The ability to support current and emerging equipment
- Industry reputation and experience
- Experience and qualifications of the company and resources
- Quality assurance commitment
- Financial strength
- Proven methodologies, tools, and value added services

Sourcing decision must be based on the “best value/total cost” principle. While cost remains a critical decision factor, the quality of the equipment, and operating efficiencies would be the primary and most critical aspects.

Project Planning

A project task list can be created to identify key issues that can affect the overall project and allow assignment of tasks. Tasks can be assigned milestones in the project file to help balance workload for project planning. Clear communication, precise operating procedures, and partnership with selected solutions provider are the building blocks of our transition plan.

Implementation

Converting alarm system monitoring, whether from in-house to third party or third party to in-house, requires absolute understanding of a defined scope of work. To implement the alarm system monitoring change, the data from the existing monitoring facility can be gathered and scrubbed to determine its accuracy and freshness. The data then need to be formatted in order to be inserted into new monitoring systems and reviewed again for accuracy. Once all data is in place in new monitoring systems, the stage is set to develop the schedule for the change over.

Post Implementation – Continuous Improvement

The alarm monitoring conversion from proprietary monitoring platform to the Third party Monitoring Center has to be a seamless, successful event. Metrics need to be assigned to all the alarms and responses. Each metric was assigned a target goal, for example 90 percent of burglar alarms within 60 seconds. To ensure continuous improvement, it is advisable to develop quarterly performance business reviews. Business reviews provide the avenue to assess performance metrics, identify opportunities to strengthen partnership, and continue to focus on achieving both organizations’ internal and external goals.

HOW CASHIERS STEAL

Without a program of prevention, there are numerous opportunities for cashier theft, among them the following;

- Helping self to cash from common drawer register
- Failing to give receipt to customer and voiding the sale after customer leaves.
- Avoiding ringing the sale; pocketing the cash
- Under-ringing the sale; pocketing the difference
- Failing to close register drawer after each sale
- Imprinting more than one charge on a credit card transaction; exchanging surplus charge slip for cash
- Allowing accomplice to remove cash; reporting the theft later
- Raising the amount of a check taken from a purchaser; pocketing the difference
- Accepting bad checks from accomplice
- Selling to friends at discount

INVESTIGATION OF CASH THEFT

Proper and adequate investigation is hampered by frequent employee turnover in retailing. Very often, by the time a particular pattern of shortage is detected, the guilty individual is gone. Some investigative procedures which may be used according to modus operandi follow:

- If shortages exist in common drawer registers, switch cashiers daily and keep "over and short" records to track individual performance.
- Frequent voids, no sales, or reports of till tapping should initiate surveillance of suspect at work. Results may be obtained by polygraph examination.
- Spot checks of cashier's funds during working day
- Integrity shopping

MONEY ROOMS

A special area for handling and storing cash may be necessary in large stores. Cashiers are usually supplied with working funds which are turned back at the end of a shift along with money received from purchases. The constant counting, disbursing, and receipt of cash often creates shortages that are temporary or permanent. While error in these operations may be common, the theft of money by the employees is not rare. Money rooms should be well constructed and burglar-resistant, if not burglarproof. Alarms should protect the perimeter, the inside area, and the safes. Holdup buttons should be strategically situated. Routine operations should require at least two employees in the room. Pre-employment screening should be particularly thorough for such employees.

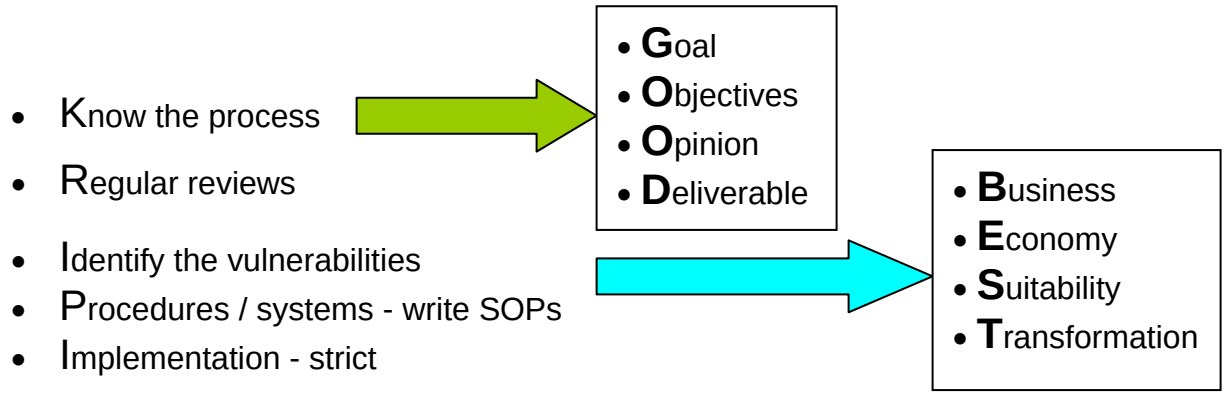
INVESTIGATION OF MONEY ROOM SHORTAGES:

Following are some procedures for solving shortages originating in the money room.

1. Thoroughly audit the entire room
2. Create deliberate error or shortage to test for reaction
3. Compare individual working schedules against times when shortages occur
4. Determine life-styles of employees
5. Since these shortages may be substantial, do not overlook possibility of recovering losses from insurance company.

Handling Losses

War cry of “Three Musketeers” - “All for one – one for all!” could have been very successful if they were the security consultant dealing in “Total Loss Prevention Program (TLPP). In the loss prevention program of any of organization, it cannot be any particular department which can be responsible for the total loss prevention program. In fact it is collective efforts of all the departments which is are trying to ensure total loss prevention program. In such conditions of the departments try to minimize the losses. As in the famous book, in reality also this must be a war-cry used by the management to ensure highest productivity and the profitability. While handing the losses following are the key considerations –



This week... Every week....
Don’t make Security weak!

Surveillance, IIT- style
Students develop See-through camera

Students at IIT, Delhi have developed a surveillance system which could give police a shot in the arm. What's more, the system after customization - can come in handy at public places like malls, airports, railways stations, parking lots and Metro stations.

The gadget, which will be on display at the forthcoming 'Open House', is portable and can be customized for any scenario with minimal modifications. The system has been developed by fourth year students of Computer Science and Engineering - Nitin Jindal and Shubham Singhal. "We have developed a fully automated surveillance system that generates intelligent object information from surveillance videos in real-time," said professors Prem Kalra and S. Bannerjee who supervised over the project. "This information can be used for activity recognition in both supervised and unsupervised manner. The system is divided in three layers."

The lowest layer, which is a crude layer, detects objects in the scene. "We learn the background of the scenario and then use background subtraction for any new object entering the scene. The second layer, physical layer, generates preliminary intelligent information about the object in this layer. We recognize the postures (standing, sitting, and bending). We then fit a 6-ellipse human body model, two hands, two legs, head, and torso of the object. We also recognize the human being based on their faces by creating high resolution images of face by super resolution technique," explained Shubham.

"The third layer, logical layer, incorporates the temporal information of the scene. We handle occlusion of multiple objects based on the color-model learnt for the objects. We are also able to locate the accurate ground position of the object in the scene, hence giving us his depth information," said Shubham. The last layer, event layer, is used to recognize the activities. It uses the intelligent information generated by the three layers to recognize pre-known activities. This layer can be customized according to the requirements of the scenario like detecting if a person has left a bag in some place, or for shop lifting detection.
The crux of this layer is to use the above generated information to suit the activity recognition requirement.

The students have also developed an ultra violet protection umbrella which provides screening from harmful solar radiations. It has a high value of ultra violet protection factor.

HOW THE SYSTEM WORKS

CRUDE LAYER

Detects objects in a situation. Any new object entering the situation is detected by background subtraction. This means the system matches the new background with the background when the object was not present

PHYSICAL LAYER

Generates "preliminary intelligent information" about the object in this layer that is whether the object is standing, sitting, bending etc. A human being can also be' recognized by creating high-resolution images of its face by super-resolution technique

LOGICAL LAYER

Handles multiple objects and accurate ground position of the object

EVENT LAYER

Recognizes activities, like detecting jf a person has left a bag at some place, or shop lifting

CCTV: Fundamental flaws and potential improvements

CCTV systems have one fundamental flaw – despite putting up large numbers of cameras to maximize the coverage of an area, we seldom have anybody actually looking at much of the area for which we are responsible.

Sure, we can always go back and look at what happened, but many times this just is not good enough. It is a problem of logistics and economics. We cannot staff the control room with enough people to view the number of cameras we have available. So we have many of these cameras' views going to waste when it may be useful to view them. To make it worse, much of what is displayed on monitors will be uneventful, or sometimes even have content that is irrelevant to the risk profile of the site. This problem of coverage is not likely to go away soon. However, there are technologies being implemented now or in the near future that will change the risk coverage by CCTV significantly.

Intelligent technology that is being developed can help in a number of ways. Central to this is technology that can work with the operator in the background performing intelligent analysis of the camera views.

- Firstly, the computer can do things that computers are good at, and free the operator up to concentrate on other duties. For example, where automated recognition such as face

recognition or number plate recognition can do the job, it frees the operator up to concentrate on the more relevant things that only people can do. In this way it is optimizing the use of the system.

- Secondly, background sensing and alerts or alarms allow the detection of suspect conditions on cameras that are not currently being viewed by the operator. The computer can highlight these or bring these to the operators' attention for viewing and investigation. This could include certain types of movement or the presence of somebody or something in an area for defined periods. Through this, the coverage of the cameras has been made more efficient.
- Another option is acting as an early warning system. In this context, the technology can highlight conditions that could potentially be suspect such as objects left in an area; cars parked where they should not be, or excessive densities of people in an area. This technology is starting to become more common with advanced DVR systems.

Potential Areas of Developments: Other technologies offer substantial potential, but have some development time still to go before they reach effective use. Where an operator is viewing a scene and needs to divert his or her attention to something else, parallel monitoring or tracking through tagging a particular object or person could allow operators to come back to that scene later and pick up more easily on the location and movement of the target. Building up an information base on targets, situations, and behaviors to use for risk management and future investigation is one of the most neglected aspects of CCTV.

Intelligent Technology: Use of an intelligent system that recognizes behavior and conditions can greatly help by increasing the amount and quality of information coming in. Technology can also help by simulating or verifying operator performance, either in contrasting the number of issues picked up by the intelligent systems, or the insertion of scenarios that should be picked up by operators and reviewing them against actual detection scores. Finally, intelligent technology can be used to extend the normal CCTV functions by building in algorithms that allow the detection of other things such as fire, smoke, production stoppages, overflows and so on that would add value to the CCTV function. I think the potential for intelligent analysis, sometimes called visual analytics technology, goes far beyond security-based CCTV to many forms of risk management and monitoring. The questions on “what, where, when, who, why and how” will increasingly become available in our data retrieval system.

Implementation Problems: Besides the development needs that are required to realize some of the ideas for technology, there are some implementation problems with those we already have available. Cry wolf is when repeated warnings occur without foundation. Eventually, the people start disregarding the warnings and the potential of the technology becomes ignored. Use of blank screen-based alarm systems are a classic example, after 90 false alarms popping up on screen in an hour or two, the screens often get switched off because they are just seen as a distraction. We can also overload the operator with warnings on what could be happening so that they do not have the time to deal with everything they are faced with. Priority setting in such instances becomes important. We do not want CCTV to be reactive to only technology-based detection - people are still more efficient at being proactive and picking up dynamics and behavior. If we prevent them searching for incidents, we will probably miss some of the most important. The timing of the event occurrence, or when we warn the operator is also something that needs to be considered. Too soon may just provide a lot of false alarms, too

late may be exactly that - too late. Finally, where do we place the warnings within the display environment - does it become the centre of attention, or one of the tools the operator uses.

Envisaged Improvement in performance: Technology has the potential to deliver higher performance in a number of ways:

- ***The level of work being performed* -** people can concentrate on the important and higher priority issues that need human interpretation.

- ***The volume of coverage of the system* -** all of these cameras are really working - not just providing a mass of information that will largely be lost and discarded. Clients are getting real capital return on their system investment. Event generated alarms and video monitoring and tracking helps! Privacy ensuring blockage of pre-determined areas help greatly in avoiding litigations on breach-of-privacy related matters.

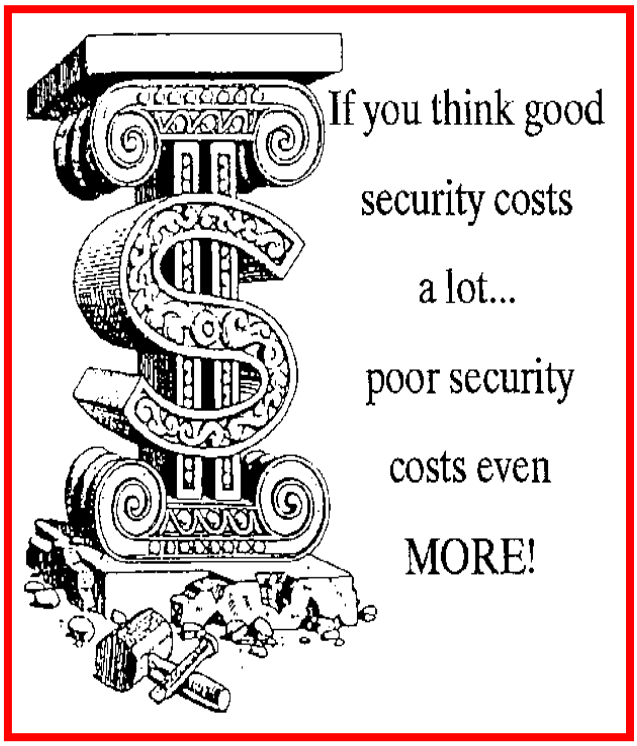
- ***The quality of results delivered:*** This is surely going to provide higher security related out-put: more things are being detected, and the base is being laid for a more intelligence and directed risk management process.

In five years' time, we will find intelligent systems on just about every worthwhile CCTV site. However, despite all the limitations with CCTV systems, the operator is still the key and final decision maker. The right operators make a significant difference to the system. Operators will continue to be able to do things that technology is unable to do and will do so for some years to come.

Eunoia

It came to me that reform should begin at home, and since that day I have not had time to remake the world.

=Will Durant



Suggestions & feedback may be sent to us on e-mail: captsbtyagi@yahoo.co.in

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