

A Guide to **Critical Elements** in Surveillance



BANDWIDTH OPTIMIZATION



SECURENS[®]

Prevent crime before it happens

ACTIVE DETERRENCE™

Siloed management of disparate security, safety and operational systems leaves too many opportunities for error and ultimately creates unwanted and unnecessary inefficiency. Therefore, the only way to feasibly tackle a challenge of this scope and scale is to adopt a **video surveillance solution** i.e. **ACTIVE DETERRENCE™** thereby uniting surveillance systems and enabling multiple levels of monitoring and control from a single reliable platform. This is where intelligent surveillance monitoring and control integration can offer real benefit.

NEW AGE TECHNOLOGY

The word surveillance comes from a French phrase for "watching over" (sur means "from above" and veiller means "to watch"). At Securens, with our award winning Central Monitoring Station (CMS), we keep watch over your business and protect everything that matters the most to you.



BANDWIDTH OPTIMIZATION VIA AGGREGATION

Bandwidth aggregation is taken very seriously by Securens as the connectivity in the remote areas of our nation is poor. Second influencing factor was no single provider could guarantee an uptime of 99% plus. The only way these issues could be addressed was to use two or more service providers and aggregate the bandwidth to achieve the desired uptime.

Benefits of Aggregation

- Achieving the best uptime
- High availability by load balancing and auto failover
- Optimum utilization of the available throughput on each link.
- Low latency as the packet are transmitted in parallel
- Server re-assembling the packet are horizontally scalable keeping the hardware cost low

Aggregation has its roots in managing the packet sequence of TCP/IP both for TCP and UDP. SIM from different ISP could be integrated easily as each has different mechanism to register the SIM and issue IP. The challenge was to have two SIMs from the same ISP to work. We achieved the same by re-writing the codes.

This was essential as in certain parts of India only one ISP signal is strong enough to transmit data.



INNOVATION AT WORK

After the Dual and Triple SIM were working in parallel we needed to decide how to send data with the lowest latency.

Each SIM would be connected to different base stations and take different paths. Each path would have a different latency. The challenge was to send data on all the links in parallel and all packets arrive within the stipulated timeframe so as to re-assemble the packet in sequence.

To achieve this, we used adaptive bandwidth monitoring to determine the network speed of each SIM. The total available bandwidth would be mapped to a scale of 100 and each link would be a percentage of the total available bandwidth.

Based on the ratio achieved on each link the TCP/IP packets would be segmented and transmitted. The transmitted packet arrives at the receiving end in parallel, re-assembled and forwarded to the destination on the LAN.



About Securens



Founded in 2011, **Securens Systems Pvt. Ltd.** rapidly emerged as India's leading electronic surveillance company, designing and delivering bespoke surveillance solutions and managed services for a wide range of commercial, private and public-sector markets. As the pioneer in live monitoring video surveillance systems in India, headquartered in Mumbai and operating across **22 states** with **28 offices** nationwide,

Securens is an award winning globally recognized 360° eSurveillance solutions provider protecting over **25,000 sites** monitored live with our proprietary **ACTIVE DETERRENCE™** technology and affiliated services.

The need for video analytics, business intelligence and personalized solutions has further spurred the demand for intelligent video surveillance systems among the consumers. With Securens **ACTIVE DETERRENCE™** video surveillance solutions gaining popularity and trust in the market, especially in banks, retail outlets, commercial offices, residential societies, factories, warehouses, educational institutes etc., to protect human life, infrastructure and enhance security in their compounds, we are equipped to grow exponentially. With the aim of preventing crime before it happens, Securens provides live (real time) and alert based surveillance monitoring, business intelligence, video analytics and best practice models to protect and safeguard property and assets from internal and external threats.

simplifying surveillance

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