Standard Server Platforms for Central Monitoring Stations: TIME TO MOVE FORWARD

ABSTRACT
Recent advances in connectivity and server technologies hold important implications for the security industry and it is now time for central monitoring stations (CMS) to adapt to the new environment. For example, due to the many innovations in telecom networks in recent years, the analog modem communication once used to connect alarm systems to CMS is no longer viable. Likewise, advances in server technology have made it possible to replace proprietary security system receiver hardware with software applications that run on standard, professional servers. Standard, hardware-based, security receivers offer CMS many advantages, including affordability, scalability and increased staff productivity. This whitepaper discusses the drivers and opportunities presented by commercial server hardware and explains how Visonic’s PowerManage service management platform provides an ideal solution in today’s technology environment by enabling CMS to fully benefit from the advantages of professional applications supported by standard server hardware. An all-in-one alarm receiver and technical management center, PowerManage is one of the first solutions on the market to run on standard, professional hardware.

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# CONTENTS

1. **BACKGROUND**  

2. **THE TRANSITION FROM ANALOG TO DIGITAL: SECURITY INDUSTRY LAGS BEHIND**  

3. **THE RIGHT TIME TO ADVANCE BEYOND PROPRIETARY SERVER HARDWARE**  
   
   3.1 An Excellent Investment  
   3.2 More cost-effective maintenance  
   3.3 Lower infrastructure and HR costs  
   3.4 Better Reliability Equals Less Downtime  

4. **VISIONIC POWERMANAGE – MAKING THE MOST OF STANDARD SERVER TECHNOLOGY**  
   
   4.1 Leveraging State of the Art Web Technologies  
   4.2 The Great Tools Available with Professional Hardware  
   4.3 An Advanced Management Platform for Any Size CMS  

5. **CONCLUSION**  

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1. BACKGROUND

Until recently, the only way for alarm systems to connect to central monitoring stations (CMS) was via voice-grade telephone lines. The telephone connection was interfaced with an analog modem. At the monitoring stations, modem-based hardware, in the form of a receiver, was required to receive the alarm calls. Each security system manufacturer had proprietary hardware receivers and their own software for this purpose. Designed to meet the performance levels that were then considered standard, today these solutions’ performance demonstrations are far from acceptable. Moreover, scalability of these solutions is very expensive and requires more space, electricity and ventilation for each addition. New features such as remote inspection of panels from the CMS and end-user-interactive applications cannot be offered on analog infrastructure.

With the advances made over the past few years in connectivity and server technologies, digital systems offer monitoring stations better performance, reliability and flexibility than analog systems.
2. THE TRANSITION FROM ANALOG TO DIGITAL: SECURITY INDUSTRY LAGS BEHIND

Already, traditional analog modem communication over telecommunication networks are decaying in almost every field – except in the security industry. Television broadcasting, telephony, and Internet are just some of the fields in which digital communication has now eclipsed analog. This is because communication networks have changed dramatically in just a few years, making analog communication increasingly less viable.

As more and more technologies have gone digital, and bandwidth and high-throughput have become more critical, telecom providers have turned to digital voice compression methods. Each network provider has its own digital compression schemes and periodically updates its networks with new, unique ones. These digital compression methods are designed for human voice and they no longer support the analog modems’ signals with utmost reliability. As a result, many CMS are finding their alarm systems suddenly ceasing to communicate with the station because a new compression method was deployed by the telecom operator.

Moreover, these digital compression methods are quickly making IP (Internet Protocol) the only reliable data communication protocol that is offered to businesses and homes. Instead of the nearly ubiquitous analog PSTN, most networks are switching to being based on IP (Internet Protocol), VoIP and IP over cellular communications. IP is a fast and highly reliable channel of communication and is publicly supported by telecommunication operators with a certain degree of quality of service.

As many monitoring stations that still use analog modem communication are struggling with unreliable connectivity, CMS are abandoning analog communication and turning to IP to achieve reliable communication between alarm systems and central monitoring stations. For this, however, the old analog receivers must be replaced with new receivers that support IP communication.

On the market, there are already several new types of IP-based receivers designed to connect alarm systems to central monitoring stations. Some of these systems are similar to old analog receivers in that they are propriety platforms developed by the security manufacturer. The most advanced receivers run on standard, professional servers. These solutions leverage the advanced technologies of standard hardware to provide CMS with a slew of benefits not possible with proprietary hardware receivers.
3. THE RIGHT TIME TO ADVANCE BEYOND PROPRIETARY SERVER HARDWARE

The advantages of using standard, professional servers for alarm receivers are significant. Because the standard servers are engineered by the biggest server manufacturers in the world, the hardware is more advanced than proprietary alarm receiver hardware could ever be. Computer hardware companies such as HP, IBM and Dell specialize in servers, unlike security companies which specialize in security technologies. These manufacturers invest millions of dollars in research and development to make the best servers available on the market, resulting in lower costs and better performance.

3.1 An Excellent Investment

Switching from proprietary server hardware to alarm receivers that run on standard, professional servers makes complete business sense for today’s CMS. One of the biggest advantages of alarm receivers that use standard hardware is their affordability. Developing proprietary platforms is expensive and this cost is passed on to the consumer, i.e. the central monitoring station. Moreover, the development of new features is slow and costly. Software applications on standard hardware are less expensive to develop and can be updated more quickly. As a result, an extremely cost-effective solution per account can be achieved.

3.2 More cost-effective maintenance

Additional cost savings are also seen in maintenance costs. Embedded platforms are expensive to maintain. With proprietary hardware, there is a need for specially trained technicians who can fix the receivers. In contrast, because of the widespread use of standard servers, there are far more technical service options for standard professional hardware. The benefits of scale also mean that standard hardware is equipped with better diagnostics, remote maintenance is inherently supported and the knowledge base is vast. Problems can be located as they occur and then quickly resolved. Moreover, the availability of world-wide support contracts make it easy to support local accounts. This all translates into less time spent on maintenance by CMS’ technical staff.

3.3 Lower infrastructure and HR costs

Standard professional servers are designed for optimal power consumption and the physical constraints of server rooms. These servers are more energy-efficient and also smaller, taking up less office space. They provide an excellent ratio of space-needed-per-account-serviced.

CMS can also save on human resource costs by using standard hardware. The amount of training time needed to learn to use a software application running on standard hardware is typically shorter than is required to train users on proprietary systems. Indeed, training usually takes only a couple of hours. Once the system is up and running, the receivers automate the technical team’s work, improving the team’s productivity.
3.4 Better Reliability Equals Less Downtime

The reliability of professional servers has been well proven. Compared to proprietary hardware, there are fewer hardware incidents per year and reduced system downtime. Even when something does go wrong, hot backup redundancy, an affordable and available option with standard hardware, means all the information is secure. Also, the servers can be housed in different locations so a natural disaster will not cause the whole network to collapse. The end result is low-expense, hot back up and much less downtime.

Scalability is another advantage of standard hardware. Professional, off-the-shelf hardware means that software upgrades and bug fixes may be regularly released – something sorely missed from proprietary solutions.

4. VISONIC POWERMANAGE – MAKING THE MOST OF STANDARD SERVER TECHNOLOGY

Visonic’s PowerManage is an excellent example of a standard-server-based alarm receiver and management system. Visonic’s PowerManage is an all-in-one receiver, technical management center and interactive service platform. It runs on professional server hardware; uses standard software development technologies and employs well-known web technologies. PowerManage contains everything needed to monitor, handle and control intrusion equipment, leveraging the applications for end-user management and other standard monitoring applications that already exist in the control room. The field-proven PowerManage receiver/resolver has been installed in over 200 central monitoring stations and telecommunication companies worldwide.

4.1 Leveraging State of the Art Web Technologies

PowerManage provides a fully integrated IP receiver: it uses IP interfaces and the most advanced web technologies to connect to telecommunication networks and end-users. These are the same web technologies used by the most powerful and largest website, Google, and its Google Mail service. For the past 15 years, companies in industries such as telecommunications, ISPs and mega-Internet companies, have also been adopting these web technologies, providing a solid proof case for the security alarm industry to follow suit.

With these web technologies, PowerManage is able to offer the latest advances in security, including visual alarm verification, remote security system programming, remote inspections, on-demand images, and the forwarding of security or camera events via email, SMS or MMS to end-users. It is also a perfect fit for any automation software.

These technologies have improved the quality of customer service and changed how CMS interact with end-users while saving CMS money. Alarm events are forwarded to the end users’ smartphone or computer, keeping them constantly involved and
improving recurring monthly revenue (RMR) for monitoring providers. Also, control and configuration features allow CMS to help end-users and field installers solve problems over the phone and internet, saving costly site visits.

Equally important, the web technologies used by PowerManage make the CMS management platform accessible anywhere, anytime. This facilitates team work flows within the monitoring station.

4.2 The Great Tools Available with Professional Hardware
Commercial hardware helps make PowerManage one of the most cost-effective, convenient and reliable solutions on the market. Among these tools are remote inspection, inspection scheduler, automatic faults monitoring, installer management and other proactive actions. Moreover, comprehensive diagnostics help support the resolution of many issues that might come up. The diagnostics include: current wireless conditions, wireless carrier strength, last 24-hours wireless conditions, last wireless channel used, remote walk tests, zone fault detection, last triggered, creating partial configurations, batch update of a set of panels with partial configuration and a history of panel configurations. These tools make running PowerManage easy and help cut costs by saving the time IT staff needs to spend maintaining the system.

4.3 An Advanced Management Platform for Any Size CMS
PowerManage is equally suitable for small central stations and the largest monitoring service providers. Actions such as: defining user roles, setting up permissions, managing panels, accessing screens and using features, have been designed for both large and small CMS. The GUI was engineered by experts, so the learning curve is short for all users.

The PowerManage family includes a choice of three different editions: PowerManage Professional Standard – for up to 50,000 accounts; PowerManage Lite – for up to 5,000 accounts; and PowerManage Virtual – a software receiver that runs on the CMS’ choice of hardware. Other, tailored made PowerManage solutions may support up to 100,000 accounts and beyond.

5. CONCLUSION
Standard hardware-based alarm receivers are the future of communication between alarm systems and central monitoring stations. Substantial benefits, such as dramatically reduced operating costs and increased customer loyalty, mean that CMS who make the move to professional hardware can gain a real competitive edge. Visonic’s PowerManage, an all-in-one receiver, technical management center and interactive service platform, is leading the way in leveraging standard, professional-grade hardware for security applications. With PowerManage, central monitoring stations can move forward technologically, and compete today and into the future.