

Save network management costs with next generation remote site monitoring solutions

Costs associated with deploying, maintaining and supporting remote equipment sites can be dramatically reduced with all-in-one remote monitoring solutions

Today's networks continue to expand their ability to deliver a wide range of voice, video and data applications over ever growing distributed grids comprised of tens of thousands of remote equipment sites. For network architects, network engineers and network managers at data centers and network operations centers who are responsible for deploying, maintaining and supporting these remote sites, there is an increasing need to consolidate equipment, gain visibility into remote locations, and simplify the complexity that causes excess overhead and unnecessary costs.

Industry analysis indicates that the typical cost of dispatching a truck for on-site service is upwards of \$400 per trip. In addition, any delay involved in getting technicians on-site for correcting critical problems can cost valuable hours of downtime. The costs associated with network downtime can run six figures and above on an hourly basis. If not controlled, downtime can also lead to customer dissatisfaction and lost business. These consequences are unacceptable in a market where it costs ten times more to attract a new customer than it does to maintain a current one.

Monitoring remote equipment sites

One of the greatest challenges to any organization is the maintaining of continuous and economical network service. Remote equipment sites can include telco closets, POPs, cellular towers, microwave sites, switching sites, broadband wireless towers, TV and radio towers, and other remote facilities. Equipment in these sites can include a diverse set of devices such as microwave transceivers, cellular transceivers, WiMAX transceivers, broadcast transceivers, routers, servers, power supplies, batteries, generators, and much more. Physical elements can include doors and windows, security equipment such as cameras, temperature, water, fire, chemicals, and many other environmental elements.



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Today's global economy relies on networks to deliver 24x7 operations, while IT staffs demand 100% operationally ready solutions. The operational readiness, maintainability, and durability of today's networks are directly tied to remote network points-of-presence and other remote facilities that enable today's networks to expand globally.

Historically, companies have relied upon service technicians to respond to outages or other conditions that can compromise network reliability and quality of service. Additionally, a host of point products have emerged that provide limited remote monitoring of equipment. Some are built-in natively to equipment, while other tools exist as third-party products for specific types of equipment.

Manual service technician

For service managers, the traditional method for troubleshooting and repairing has been to send a technician out to the remote equipment site. While effective, this is an extremely slow and expensive option. First, problems with the equipment are only noticed after customers report them. Then, it takes time and money to dispatch a technician to the remote site for repairs.

Native and point products

All of these tools offer the advantage of speed, however, they offer only a partial solution as they require the network to be functioning. They often lack a way to reset remote equipment. These products may only support their equipment, limiting the type of devices and elements they can monitor. In many cases, manufacturers of various devices such as power supplies, networking equipment and other applications have provided management capabilities to help IT staff administer each of these devices. However, this can present a problem with many separate interfaces, protocols and applications to learn, support and maintain.

All-in-one RSM controller benefits over software-based products

All-in-one remote site monitoring controllers offer a turn-key solution, enabling rapid time-to-market and high value through hardware, OS and application integration. In most cases, RSM controllers are simply attached to a network and immediately begin monitoring equipment and environmental conditions, and provide access and control to remote sites after some minor configuration. Unlike traditional software monitoring products there is no software installation or integration required; this eliminates one of the most expensive and complex tasks of traditional software monitoring solutions.

One of the most obvious benefits that all-in-one RSM controllers have is an operational ready hardware system to support the complete functionality needed for the solution. All software systems require computer hardware to perform. This requires separate hardware to be acquired and configured, and this adds undue hardship requiring the organization to ensure the appropriate hardware is purchased. The customer must also ensure that the hardware and software fit properly into their unique deployment environment by testing and validating that the combination work well together and deliver the ultimate solution.

Many software vendors only offer minimal guidance in respect to system requirements. These system requirement lists are often generic and do not provide an appropriate level of information to answer detailed deployment and maintenance questions. The customer may be required to pay for professional services to properly procure, install, and configure hardware prior to being able to implement the solution.

With point and native products the initial deployment represents the start of a continuing maintenance and operations cycle for ongoing support for the hardware,

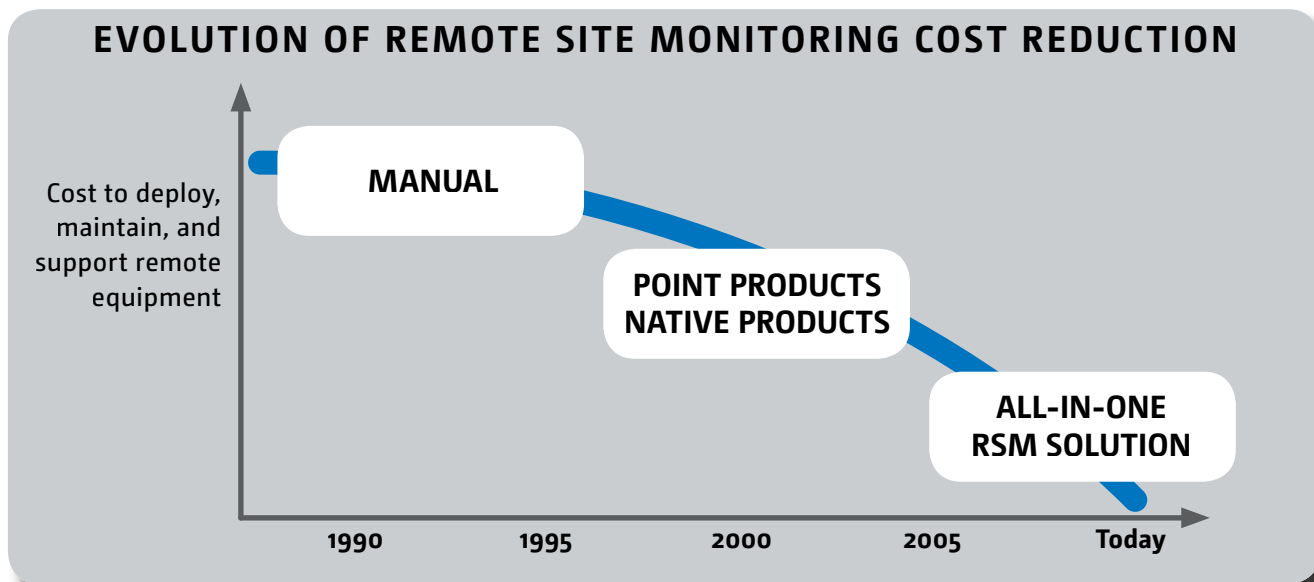
operating system, and application. With all-in-one RMS controllers, the customer receives support from a single vendor for all aspects of the solution, including hardware replacement and software update support for both the application and integrated operating system. For software-based solutions the end-user is required to obtain support for each solution component separately, adding significantly to the management and support overhead.

In contrast, all-in-one RSM controllers include the hardware system. This eliminates all the potential hardware complications and uncertainties of software-based solutions. Remote site monitoring controllers include a dedicated embedded operating system that supports the functionality required for the solution. The operating system comes pre-configured and tuned to support the application. Additionally, the end-user does not have to purchase operating system licenses to support the solution.

RSM controllers can reduce support costs and allow service providers to offer superior customer service through self-maintenance and remote support providing real-time data collection to quickly resolve support issues.

The bottom line is these tools do not support all equipment, environmental conditions and remote site access in a single device, and do not provide a unified view of all the distributed sites to the central network management system.

The solution needed is one that combines the comprehensiveness of a field technician, with the speed of a remote tool, and that is precisely what Asentria products are designed to provide.



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New integrated capabilities for remote site management (RSM) improve reliability and lower costs

Network managers know that reliable out-of-band access to network devices is crucial to maintaining their remote equipment. All-in-one RSM solutions integrate three important functions of remote site management.

1. In-band and secure out-of-band access.
2. Remote reboot control.
3. Remote site alarm reporting.

These integrated capabilities reduce costs associated with managing remote sites while minimizing downtime.

Access to remote equipment via out-of-band (e.g. PSTN, wireless and ADSL modem) links is vital for restoring operations, configuration management and troubleshooting. With diverse equipment at each location (i.e. routers, servers, CSU/DSUs, power sources, etc.), the cost of providing separate modems and phone lines for each piece of equipment can quickly add up. A single management controller is a simple and cost-effective way to reduce line and equipment costs, while providing unified access to all devices.

A modem integrated into the RSM controller is directed to the target device. After password validation, a menu of available devices is presented to the technician. Once a choice is made, the RSM controller routes the technician to the authorized device.

By allowing a single access line to service multiple devices, RSM controllers pay for themselves very quickly. Time is also saved because technicians need only make one phone call to access all devices. Having a single and consistent access method simplifies training and documentation. By reducing or eliminating on-site visits, remote rebooting of devices lowers downtime and reduces costs.

Alarm monitoring for unmanned and understaffed remote sites for devices and environmental conditions (e.g. temperature, humidity, water, power, etc.) proactively alerts managers to potential or current problems. These site alarms are often overlooked when planning remote sites, but they can lead to major outages. Alarm reporting, via email, TCP traps, pager or to network management systems, can provide critical information to help reduce network downtime by alerting the correct personnel for each type of failure.

The case for all-in-one remote site controllers for complete monitoring, access and control

Asentria provides integrated hardware and software solutions that deliver real-time visibility, reliable connectivity, and desktop access and control of remote equipment sites. By enabling unified and improved remote site monitoring, access and control, our customers are able to run their businesses and critical networks more efficiently and reliably, while lowering operational costs.

All-in-one RSM controllers include a complete software solution that operates exclusively on top of and is embedded within a dedicated operating system and hardware platform. The embedded software is composed of applications and processes. These functions are integrated within a dedicated operating system that is uniquely configured to support them. The computer hardware, operating system, and software comprise the RSM controller.

Asentria RSM controllers support both in-band and out-of-band communications, and can be deployed with our complementary management software that is not resident on the appliance. This complementary technology works in conjunction with our RSM controllers and is best described as a virtual extension of the controller and extends the functionality to hold true to all of the disciplines and benefits of the controller architecture itself.

Asentria's remote site monitoring solutions deliver a unifying management platform that enables service providers and enterprises to simplify their ability to securely connect into remote sites to monitor and manage equipment. We deliver a single point-of-management through which remote administrators can manage SNMP-enabled or non-SNMP/non-networked equipment, monitor environmental conditions such as temperature and humidity, and manage related devices that may include fans, security sensors and other elements.

Asentria's remote site monitoring solutions consist of two primary components:

1. TeleBoss, a family of Telecom Site Controllers that reside at the customer premise to securely access, monitor, control, and collect data from PBXs, other telecommunications infrastructure and environmental conditions; and SiteBoss, a family of Remote Site Controllers that are located in remote equipment sites such as cellular towers, microwave sites, broadband wireless towers, TV and radio towers, and other remote facilities.

2. SitePath, a secure administration portal that provides a centralized management platform for the datacenter or NOC to monitor TeleBoss and SiteBoss Controllers, and the managed equipment behind them. Together, TeleBoss, SiteBoss and SitePath work in combination to monitor and manage the health of vital telecommunications infrastructure.

Asentria's SitePath administration portal and TeleBoss, SiteBoss Controllers create a standard process and user interface for network operators wherever they may be located. This simplifies training costs, and provides faster deployment of next generation managed services that require secure, flexible and efficient network operations.

RSM controller benefits that save costs

The high costs associated with manual service technicians, point products and native monitoring products has created a demand for alternative models to eliminate or significantly reduce costs such as:

- ▶ Maintenance services and system upgrades
- ▶ Unified view of remote sites and the equipment and environmental conditions at each site
- ▶ Reduced on-site service calls ("truck rolls")
- ▶ Protocol mediation and consolidation
- ▶ Reduce and/or eliminate many of the devices that unnecessarily add complexity and cost
- ▶ Enable future changes to monitoring software without making equipment obsolete
- ▶ Control unscheduled dispatches, which are costly
- ▶ If an urgent problem arises requiring immediate response, you need to know exactly what it is so you can send a technician before the situation escalates



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While manual service technicians can reach problems and fix them, there are many shortcomings, including:

- ▶ Reactionary verses pro-active
- ▶ High costs to send a technician on-site
- ▶ Response delays cost valuable time and money

Reducing complexity and simplifying technology is driving the rapid adoption of all-in-one RSM solutions. Asentria eliminates the costs of manual service technicians and avoids the shortcomings of point and native products by providing a completely integrated and robust hardware and software solution. Asentria offers unique benefits such as:

Planning and Design

Easier vendor management with less capital investment for deploying remote site equipment.

Implementation

Quicker, easier and error-free deployments with fully managed, plug-and-play provisioning.

Maintenance

Future-proof your network through Asentria's comprehensive RSM solution platform.

On-site Repair

Reduce network downtime by ensuring timely repair or repair of non-operational equipment.

Monitoring and Alerting

Business-critical network reliability delivered through automated equipment and environmental monitoring, access and control.

Upgrades and Changes

Minimize total cost of ownership and improve remote site recovery by maintaining accurate log records and automating firmware upgrades and configuration changes.

Customer Support

Lower operational costs and reduce downtime using purpose-built RSM solutions.

Asentria's products have an easily quantifiable ROI. In fact, customers can see payback on their investment from many different perspectives:

- ▶ Reduced capital expenditures on remote IT infrastructure
- ▶ Consolidation of remote cabinet components
- ▶ Integrated functionality simplifies remote infrastructure
- ▶ Reduced support costs
- ▶ Easier to manage
- ▶ Saving rack and cabinet space
- ▶ Data centers gain greater visibility and real-time information via alarm isolation and automated response capabilities
- ▶ Reduce or even eliminate truck rolls, while providing greater information prior to dispatching a field technician - saving them time/dollars

Summary

Organizations today depend upon their networks to increase productivity and perform reliably, in order to accommodate geographically dispersed users. This will not be accomplished through more boxes, more complexity or more single capability solutions. The solution is found at the critical juncture where remote equipment sites link distributed networks, and connect to the centralized network management system - where all the remote monitoring, access, control and security are required, and integrated within a cohesive platform.

Asentria is a leading provider of remote site monitoring solutions that simplify and enhance the operation of distributed remote equipment sites that are vital to today's networks. We provide integrated hardware and software solutions that provide real-time visibility, reliable connectivity, and desktop access and control of remote equipment sites. By enabling unified and improved remote site monitoring, access and control, our customers are able to run their businesses and critical networks more efficiently and reliably, while lowering operational costs.

From a business standpoint, managed service providers, service bureaus and network operators are under continuous pressure to optimize operational expenses and to improve profitability. Significant areas that can benefit from efficiency gains include network field operations, administration, maintenance and provisioning - reducing "truck rolls" for field technicians and ensuring maximum uptime for customers. Combining business requirements and new technical capabilities enables an integrated and unified remote site monitoring strategy.

Customers can rely on network services that are delivered with minimal downtime, IT personnel gain a dramatic improvement in quickly resolving remote site equipment and environmental problems, and organizations reduce their overall remote site infrastructure and maintenance costs. Over 10,000 organizations and service providers worldwide rely upon Asentria as the leader in remote site monitoring - ensuring proactive remote site monitoring that can make the difference between an inconsequential event and critical downtime.





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