



Positron Public Safety Systems

White Paper

Enhanced Maintenance Monitoring
The Positron Approach

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1 INTRODUCTION

Today's modern PSAP takes full advantage of the technology available to it. Increasingly, technology plays an essential role, offering a broad range of information sharing and communication features. As more systems become available from a variety of different vendors, keeping them running smoothly is more important now than ever.

PSAPs invest in equipment and software to better serve their communities. This equipment is purchased to add value to the services PSAPs provide and as such, protecting that investment is critical. The bottom line is that your equipment must work for you.

2 WHAT IS SYSTEMS MANAGEMENT?

A systems management solution comprises equipment that monitors your computer systems, communications and software to ensure that they are functioning correctly. A proper systems management solution will provide notification when a problem condition is encountered, and will provide assistance in resolving the issue.

2.1 What Should It Do?

A proper PSAP maintenance monitoring and management system should be designed specifically for use in the public safety communications environment. It should be capable of monitoring all customer premise equipment, regardless of vendor, and should provide immediate notification of any irregular behavior, including faults, according to parameters defined by the agency. It should notify you of any issues regardless of your location by a variety of communication methods.

2.2 What Are The Benefits?

The benefits of a proper maintenance monitoring solution are many, but primarily and most importantly the result will be better service to your community through proper operation of your equipment, and cost savings to your agency. You will receive greater value for money as your equipment will enjoy reduced downtime, and these savings can be put to work to enhance your service in other ways. Finally, there will be less finger-pointing in issue resolution, as the monitoring solution can help pinpoint the exact trouble spot from the outset, reducing the amount of time spent troubleshooting and ensuring that the fault is resolved by the appropriate vendor from the outset.

3 CHOOSING A SYSTEMS MANAGEMENT SOLUTION

Because PSAPs today use a combination of state-of-the-art and legacy systems, the proper systems management solution should be capable of managing all of these. This means that a comprehensive system is required, one designed specifically for the mission-critical environment of public safety. It must be capable of evolving and adapting to change as newer systems are implemented within the PSAP.

Some monitoring points to consider when selecting a maintenance monitoring system are as follows:

- Serial data taps:
 - Maintenance printers
 - Maintenance terminals
 - ALI links
- Contact closures:
 - Controllers
 - Environmental systems
 - Security systems
- Agent monitor:
 - Ensure that PC monitoring agents are operational and doing their job
- Cluster monitor:
 - Required for high availability systems
- Event collector:
 - Required to monitor PC hardware, operating system and third party application performance
- Exchange Monitor:
 - Required for email installations
- File Monitor:
 - Required for applications that only generate text file alarms
- FTP Monitor:
 - Required for applications that rely on FTP services
- TCP Port Monitor:
 - Required for applications that utilize TCP services
- Performance Data Collection:
 - Required for managing resource utilization and capacity planning
- Ping Monitor:
 - Ensures that devices are up
- Process Monitor:
 - See when applications start, stop or terminate unexpectedly
- Service Monitor:
 - Monitor services to see when they start, stop, terminate abnormally
- SMTP Monitor:
 - POP3 Monitor
 - Monitor Internet email services

- SNMP Receiver:
 - SNMP Object ID Monitor
 - Trap SNMP an OID messages such as managed network devices
- SQL Monitor:
 - Monitor SQL servers
- Web Page Monitor:
 - Monitor errors on web page
- WMI Monitor:
 - Monitor Windows management instrumentation
- Syslog Receiver:

3.1 Notification

Monitoring the many points mentioned in the previous paragraph is of little value unless your solution can alert you to a potential issue. As such, a proper maintenance monitoring solution should allow you to define the conditions upon which you will be alerted. You should be capable of setting the thresholds for each monitoring type as well.

The solution should be able to notify you in a variety of ways for each alarm type, and should be able to reach you anytime, anywhere. For example the system might send out an e-mail and an alphanumeric page simultaneously for a given alarm type, but may only send an e-mail for another alarm type of lesser importance, as defined by the agency.

Some notification methods are as follows:

- Alarm Panel
- Alert
- Beep
- E-Mail
- NRC
- Marquee Device
- Network Message
- Pager
- Play Sound File
- Post Web Form
- Command Script
- SNMP Trap
- SNMP OID
- Text-to-Speech Message

3.2 Issue Resolution Assistance

Once alarm notification has been received and the maintenance organization is working on the solution, your maintenance monitoring system should provide you with powerful aids to help resolve the issue. These can include local/remote terminal and/or computer access, a knowledge-base for repeated failures along with step-by-step instructions for problem resolution.

3.3 Reporting

A proper maintenance monitoring solution should provide comprehensive ad-hoc reporting capabilities to assist you in determining such elements as resource utilization and capacity planning. It should generate historical reporting of previous faults and perform trend analyses of faults, response and repair times.

A maintenance activity log should be available via the maintenance monitoring solution. Other elements include a maintenance mode to avoid nuisance alarms when the system is being upgraded, full access level control, and automatic upgrade capabilities.

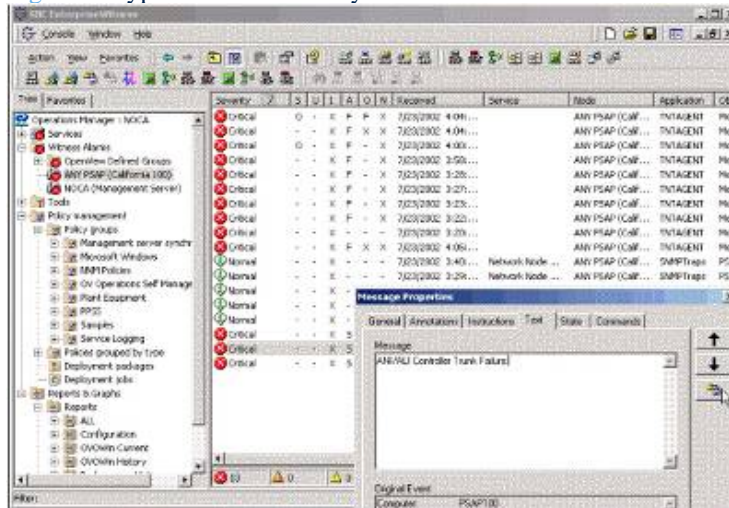
4 PUBLIC SAFETY IS SPECIAL

Public safety has special needs. Often, commercial systems used for IT management for example, fall short when applied to the mission-critical management environment of public safety. Because these systems are based on a business model, which has a faster evolution of off-the-shelf systems and a dynamic install base, they do not reflect the reality of public safety. They may not be capable of monitoring legacy equipment found in PSAPs today. They may not be capable of providing the detailed reporting necessary for the management of a public safety communications center. Those systems that do not provide these elements should not be considered for use in a public safety agency.

5 THE POSITRON APPROACH

Positron Sentry is a maintenance monitoring solution designed by Positron specifically for public safety. It provides extensive monitoring capability for all customer premise equipment, regardless of vendor, as well as immediate notification of any irregular behavior of that equipment.

Figure 1 Typical Positron Sentry GUI



Positron Sentry provides some additional features desirable for public safety such as:

- Maintenance activity log
- Maintenance mode to prevent nuisance alarms during upgrades
- Full access level control
- Optional video conferencing
- Automatic upgrades
- Optional electronic software distribution (application and data – depends on CPE support of this feature)

6 CONTACT US

If you require any additional information on this, or any topic, please feel free to contact your Regional Sales Manager or Positron at 800.443.3313 or email info@positron911.com.