

:Seneca



xCONNECT Guardian

Remote Management Platform



WHY MONITOR SECURITY STORAGE HARDWARE

Every day, massive amounts of surveillance video are placed onto storage devices with the expectation that, at some point, some undetermined segment of video will need to be retrieved and viewed, perhaps for the first time. Be it for forensic, audit or other purpose, the storage system must be capable of delivering the required footage reliably and without error.

Techniques such as RAID and archival storage can help mitigate the risk of data loss. However, for as reliable as electronic storage hardware can be, the fact is that key components within systems are vulnerable to failure.

These components include hard drives, cooling and power supplies that increase the risk and exposure to system downtime. Fortunately, there is another layer of defense, based on the telltale signs that failing components often provide ... but you must be looking for them.

The challenge is providing information/data that helps you look for the signs easily and respond proactively to mitigate the risk of system issues and protect the integrity of the video.



WHAT IS STORAGE SERVER MONITORING?

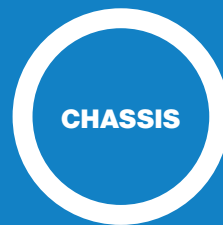
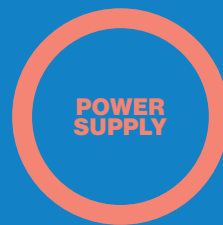
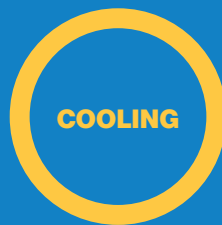
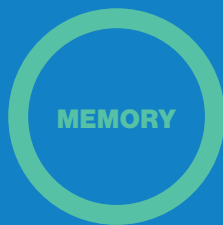
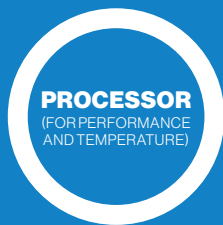
Storage server monitoring involves sensing certain physical parameters in the server hardware, logging those parameters to create a history and reporting locally or to a remote location. Excessive heat is the most common sign of an impending component problem. Further, overall system performance issues may be identified, such as hard drive utilization (volume levels), missing device connections and environmental characteristics.

WHAT IS MONITORED?

The storage server can be visualized as three separate areas – system-level, storage components and network interface – and each of these has different identifiable areas that are candidates for supervision. Additionally, since cameras transmit their “payloads” to the server, the server monitoring function can be extended to provide some insight into their status.

SYSTEM-LEVEL MONITORING

The key system-level components that should be monitored are:



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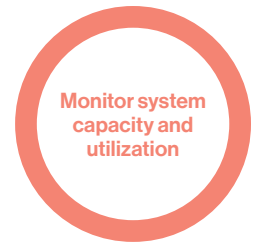
At the component level, embedded sensors in the server provide information on the unit's motherboard and backplane. Inputs are aggregated from the individual HDDs, fan and power supplies. The system leverages the

RAID Controller, chassis mid-plane and an embedded microcontroller on the motherboard, or the baseboard management controller (BMC), for system information. The LSI RAID controller talks to the storage array on a lower level, reading temperature sensors on the backplane. Failing DIMM components report to the memory controller. Other sensors built into the server report to the BMC on parameters such as temperature, cooling fan speeds, power status and operating system (OS) status. Alarms may be generated when pre-set limits are violated. For example, fan performance is tracked by logging RPMs and sending alerts when fan speed exceeds an alarm threshold. Power supply heat and current are indicators of normal versus problem operation.



STORAGE COMPONENT MONITORING

Hard drive monitoring tracks problem conditions such as overheating, bad sectors or array degradation. The benefits of this are several:



NETWORK INTERFACE MONITORING

Monitoring the performance of Network Interface Cards (NICs) indicates how much of the network throughput is being used to identify if it will impact performance.

SYSTEM ADMINISTRATION

Collected inputs are logged and formatted for access through a user dashboard. As a result, the user is presented with a holistic view of his storage environment. Alerts may be set up for email after configuring an SMTP server.

The system maintains an Event Log File, which may be filtered, searched by date range and event cause, and exported. The same events are logged into Windows Event Log (WEL) database for redundancy.

APPLICATIONS – SOLVING THE CHALLENGE

xConnect remote management software is an application that allows customers to monitor the key components remotely. The application provides an unseen advantage of remote monitoring because audio and visual alerts on the storage server may not be heard or seen when units are deployed in a noisy equipment room.

xConnect Core has become a go-to remote management platform for integrators everywhere. But, now Seneca introduces an even more robust solution. xConnect Guardian is next-generation software with additional features that improve already-great benefits.

XCONNECT PROVIDES FOUR BASIC TENETS:

INTUITIVE SYSTEM MONITORING

- We monitor system information or status signal from key elements of Seneca devices from a single pane of glass.

SIMPLE ECOSYSTEM MANAGEMENT

- From a single gear icon dropdown, you can navigate to manage customers, users, gateways and devices

LOCAL AND WEB DASHBOARDS

PROACTIVE EVENT NOTIFICATION

- Out of the box, all key data points have “thresholds” that have been preprogrammed. Should a datapoint go beyond a threshold, an “event” is triggered to alert there is an issue
- These events are logged for review and reporting.
- Email notifications are customizable, where for example, specific ‘events’ can trigger contact to specific parties. All of these alert workflows are automated



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THE GUARDIAN ADVANTAGE

xConnect Core is provided as part of the offering with all Seneca storage servers and allows monitoring systems within a single site all connected within the same network (LAN). xConnect Core provides a local dashboard to monitor systems and email alerts to respond proactively to any potential issues.

xConnect Guardian is an enhanced service offering that expands the capabilities to monitor multiple systems and multiple sites within the same user dashboard. xConnect Guardian provides a web-based dashboard, email notification, remote desktop and ecosystem management within a virtual gateway. With xConnect Guardian, you get all the advantages of xConnect Core with much more ...

FEATURE	xCONNECT Core Remote Management Platform	xCONNECT Guardian Remote Management Platform
Local Device Telemetry	●	●
Multi-Device LAN Monitoring	●	●
Local Dashboard	●	●
Email Notification	●*	●
IP Peripheral Status	●**	●
Web Dashboard	-	●
Multi-Site Monitoring	-	●
Remote Command	-	●*
Remote Desktop	-	●
Ecosystem Management	-	●
API integration	-	●**
XCvBridge Virtual Gateway	-	●

*Must have local SMTP server
**Devices MUST be on LAN

*Remote command feature available. User responsible for execution.
Available as paid service

**API integration feature available. User responsible for integration
Available as paid service



xConnect remote management software is an application that allows customers to monitor the key components remotely.



CONCLUSION

xConnect, a web-based software utility to manage, monitor and report on server health, environmental and performance characteristics, is available via local access with the storage server and as a remote client. The remote client is accessible through any Windows-based device and provides a high-level status view of the system, storage and network. Advanced options with xConnect Guardian include multi-server monitoring, email configuration and third-party monitoring.

