

SYSTEM HEALTH CHECK- CLIENT- VMS

OVERALL SYSTEM HEALTH SCORE

C



MODERATE WITH CONCERNS: SYSTEM OPERATING INEFFICIENTLY

REVIEW SUMMARY

Tony Vrooman of Pro-Tec Design preformed a site review of the video management solution (VMS) located at XXXXXXX on XXXXXX. A review was initiated of the server system health for the existing XXXXX VMS and a visual inspection was done of several system components. The issues observed are critical to the successful operation of the system. Many issues require immediate attention.

Steve Roetering of Pro-Tec Design had previously reviewed the system configurations. Adjustments were made to the recording to drop CPU utilization from %90+ down to %50 and redirected recording from the C:\ drive to the E:\ drive (it's not recommended to record any video to c: per milestone standards). These adjustments greatly improved system performance.

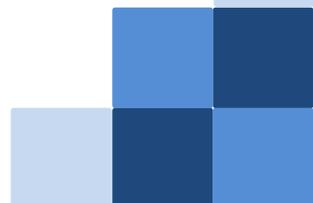
ISSUES IDENTIFIED

| # | CRIT | ISSUE | CONCERNS |
|----|------|--|---|
| 1. | LVL1 | Current VMS platform is "end of life" and is having support discontinued. | Current version is XXXXXX- Product will no longer be supported. The manufacturer has directed to change to XXXXXX. An upgrade would be required. Software manufacturers provide required patches to improve security vulnerability and bug fixes, as well as provide new functionality. Without these updates, a system may be vulnerable to security threats. The system may also fall out of support by the manufacturer. |
| 2. | LVL3 | Leveraging analog cameras over analog encoders. | Many analog camera encoders are simply used as a solution to bridge the gap between analog and IP during system transition. Many cameras after years of use have reached Mean Time To Failure (MTTF). Because of the critical nature of |

5929 Baker Road, Suite 400 ▪ Minnetonka, MN 55345

Main: (763) 553-1477 ▪ Fax: 763-233-6855

www.pro-tecdesign.com



| | | | |
|----|------|---|--|
| | | | the site security it is recommended to upgrade to IP and make the legacy hardware current. |
| 3. | LVL2 | The Software Support Agreement (SSA) is not in place. | Software support agreements often provide: access to technical support, upgrades/updates to software, investment protection, & online services. |
| 4. | LVL2 | Operating system is not current on Management/Recording Server (Storage Appliance). Management Server OS- 2008 R2 Standard SP1 64 bit | Upgrading the server OS is required if an update is planned for the most current VMS application. Milestone recommends Windows Server 2012 R2, or 2016 (64 bit). 2008 R2 is no longer supported by Milestone. |
| 5. | LVL3 | Cameras currently only recording 14 days of stored video then overwriting. | The common industry standard for XXXXXX entities has been 30 days retention. Video Grooming and Archiving are also recommended. |
| 6. | LVL1 | Memory utilization percentage is %30 with 150 hard faults/sec. | Should not have any faults- Root cause may be media overflows (more media that needs to be written than can physically be processed). A potential bottle neck may exist between the VM storage drive and the recording server. The current storage appliance is not really intended for commercial grade security video. This may be a primary cause for the audio syncing issues. |

RECOMMENDATIONS

Pro-Tec recommends a review of the system architecture. It is recommended to switch to a separate management server. Currently both applications reside on the same VM. It is recommended as the system grows to incorporate more cameras/locations that recording servers are split from the management application. Additional updated calculation for the storage of the cameras will be required in providing the recommended server architecture.

1. LEVEL 1- CRITICAL (Required)

- a. Current VMS is “end of life”. Upgrade VMS solution to XXXXXX.
- b. Address camera system storage and recording architecture.

2. LEVEL 2- OPTIMAL (Ideal but not required)

- a. Establish SSA for support and future upgrades.
- b. Update Server OS. This will be a requirement if VMS is upgraded.

3. LEVEL 3- DESIRED (Would improve system health, not required)

- a. Upgrade existing analog cameras to IP. Attach microphones directly to cameras.
- b. Increase camera storage retention to 30 days. Incorporate archiving and grooming.

