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## Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, based on *MasterFormat 2018*. *The Manufacturer is responsible for technical accuracy. By removing the references to specific Salient product names or part numbers, the text may also be used also in performance-based specifications.*

The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. *Italicized Words and sentences within brackets [ ] are choices to include or exclude a particular item or statement.* Coordinate this section with other specification sections and the Drawings.

### Section 28 05 13 Servers, Workstations and Storage for Electronic Safety and Security

#### PART 1 – GENERAL

##### 1.1 SUMMARY

###### A. Section Includes

1. Video surveillance servers.

###### B. Related Sections

1. Section 28 20 00 – Video Surveillance.
2. Section 28 23 13 – Video Management System Interfaces.
3. Section 28 05 19 – Storage Appliances for Electronic Safety and Security.
4. Section 28 21 00 – Surveillance Cameras.

## 1.2 REFERENCES

- A. Underwriters Laboratories, Inc. (UL) ([www.ul.com](http://www.ul.com))
  - 1. UL 50 Enclosures for Electrical Equipment.
  - 2. UL 60950-1 Information Technology Equipment - Safety.

## 1.3 SUBMITTALS

- A. Submit under provisions of Section [01 33 00].
- B. Product Data:
  - 1. Manufacturer's data, user and installation manuals for all equipment and software programs including computer equipment and other equipment required for a complete VMS.
- C. Shop Drawings
  - 1. System device locations on architectural floor plans.
  - 2. Full Schematic of system including wiring information for all devices.
- D. Closeout Submittals
  - 1. User Manuals
  - 2. Parts list.
  - 3. System device locations on architectural floor plans.
  - 4. Wiring and connection diagrams.
  - 5. Maintenance requirements.

## 1.4 QUALITY ASSURANCE

- A. Manufacturer shall have a minimum of 10 years experience in the manufacture and design of VMS products.
- B. Installer:
  - 1. Minimum of 5 years experience installing VMS products.
  - 2. All installation, configuration, setup, program and related work shall be performed by technicians thoroughly trained by the manufacturer in the installation and service of the equipment provided.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Comply with requirements of Section [01 60 00] Product Requirements.
- B. Deliver materials in manufacture's original, unopened, undamaged containers with original identification labels.
- C. Protect stored materials from environmental and temperature conditions following the manufacturer's instructions.
- D. Handle and operate products and systems according to manufacturer's instructions.

1.6 WARRANTY

- A. Provide manufacturer's warranty covering three (3) years for replacement and repair of defective equipment.

1.7 MAINTENANCE

- A. Make ordering of new equipment for expansions, replacements and spare parts available.
- B. Provide factory direct technical support to the installing firm.

**PART 2 – PRODUCTS**

2.1 VIDEO SERVER

A. Manufacturer:

The Video Server shall be the PowerUltra as supplied by:

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B. Substitutions:

Under the provisions of Division 1:

- 1. All proposed substitutions must be approved by the Consultant or Architect/Engineer professional.

2. Proposed substitutions must provide a line-by-line compliance document.

C. General Server Features:

1. The video server shall be integrated into a server-class computing platform ('PC'). The PC shall be available in a rack-mount chassis and shall fit in an EIA-standard 19" equipment rack utilizing no more than two units (2U) of rack space.
2. The server Operating System shall be Microsoft Windows Server 2016 Standard Embedded.
3. Server shall have front accessible, hot-swap hard-disk trays.
4. Server shall have front accessible USB ports

D. Server System Components:

1. The server shall meet or exceed the following system component specifications:
  - a. Server shall utilize a single (1) Intel Xeon CPU.
  - b. Server shall have at least 48GB of DDR4 system memory
  - c. Server Storage Controller shall be a PERC H740.
  - d. All hard disk components used by the system shall be designed specifically for either surveillance class or enterprise class storage applications in disk dense environments.
  - e. Server shall provide between 12TB and 132TB RAID5 of internal storage for video event data, and shall support RAID 5 configurations as well as RAID 6 with single or dual hot-spare hard drive configurations.
  - f. Server shall have four Gigabit network controller ports.
  - g. Server shall have RS-232C serial port, for communications with pan-tilt-zoom cameras and other auxiliary devices.
2. The server shall provide the following optional components:
  - a. Using analog frame grabber technology, the DVMS shall be capable of supporting between zero (0) and sixty four (64) NTSC or PAL video sources, in increments of four (4) video sources.
  - b. Using digital video capture technology, the DVMS shall be capable of supporting IP-based video sources, in increments of one (1) video source.
  - c. The DVMS server shall support the following "Compression Formats" for analog video sources (NTSC or PAL):
    1. MJPEG
    2. MPEG4
    3. H.264
  - d. The video frame grabber expansion board shall utilize a separate video decoder for each video source, allowing for fully independent control of the following for each source:

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1. Brightness;
  2. Contrast;
  3. Hue;
  4. Saturation;
  5. Chroma;
- e. The server shall optionally provide support for between sixteen (16) and sixty-four (64) digital input and output points for wired integration with access control, building automation equipment, sensors, monitors, or other application requirements that may be determined at a later time. The server shall support any combination of the following digital input and output devices that are physically connected to the server via the PC's USB bus:
1. 16in + 16 out – 16 optically isolated digital inputs and 16 reed-relay outputs.
3. The server shall support capture of video from cameras:
- a. Server shall support IP cameras from leading camera manufacturers, with these video feeds connected through the server network controller without the need for encoders or other devices:
    1. ACTi
    2. AMAG
    3. American Dynamics
    4. Appro
    5. Arecont Vision
    6. Advanced Technology Video
    7. Aver
    8. Aviglion
    9. AVTech
    10. Axis
    11. Aventura
    12. Basler
    13. Bosch
    14. Brickcom
    15. Canon
    16. Cisco
    17. Digital WatchDog
    18. D-Link
    19. DRS
    20. Fine CCTV
    21. Ganz
    22. Genesis CCTV
    23. Geovision
    24. Global
    25. Hikvision
    26. Honeywell
    27. IDView
    28. Interlogix TruVision

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29. Iteris
30. Immervision
31. IQinVision
32. JVC
33. Lilin
34. Lumenera
35. March
36. Mango
37. Mobotix
38. OpenEye
39. Optiview
40. Panasonic
41. Pelco
42. Probe
43. Q-See
44. Samsung
45. Scallop
46. Sentry 360
47. SightLogix
48. SmarterCam
49. Sony
50. Speco
51. Stardot
52. Stentofon
53. Toshiba
54. Verint
55. Video IQ
56. Vitek
57. VivoTek
58. Weldex

b. Server shall support control of PTZ camera from leading camera manufacturers:

1. American Dynamics ASCII Continuous
2. American Dynamics ASCII Make-Break
3. ACTi
4. Axis
5. Bosch
6. Canon VCC-4
7. Kalatel
8. Panasonic IP
9. Panasonic WV-CS850 Conventional
10. Panasonic WV-CS850 New
11. Pelco IP
12. Pelco ASCII
13. Pelco D
14. Pelco P
15. Philips Biphase
16. RVision
17. SAE

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18. Samsung
19. Sensormatic
20. Sony EVI –D30/D31
21. Sony P5 IP
22. Sony Visca IP
23. Sony Visca EVI D30-D31
24. Toshiba IK-WB IP
25. Toshiba IK-WB21A IP
26. Ultrak KD6 (Diamond)
27. VCL
28. Vicon

E. Chassis Features:

1. The Form Factor shall be 2U.
2. The dimensions shall be 18.98” x 28.17” x 3.42”
3. Front ports shall be 2x USB 2.0 and 1x VGA
4. Rear ports shall be 2x USB 3.0, 1x VGA, 1xRS232C
5. Drive Bays shall be 8x 3.5” SATA hot-swap

F. Electrical:

1. Input Voltage: AC 100-240V 50-60Hz.
2. Power Supply: 750W AC-DC, redundant (1+1), hot-swap

G. Environmental:

1. Temperature Range:
  - a. Operating: 50 to 95 degrees F (10 to 35 degrees C)
  - b. Non-Operating: -40 to 149 degrees F (-40 to 65 C)
2. Relative Humidity Range:
  - a. Operating 10 to 80% (non condensing at ambient)
  - b. Non-operating 5 to 95% (non-condensing at ambient)

## **PART 3 – EXECUTION**

### 3.1 EXAMINATION

- A. Examine area to receive devices and notify any adverse conditions affecting installation or subsequent operation.
- B. Do not begin installation until unacceptable conditions are corrected.

### 3.2 PREPARATION

- A. Protect devices from damage during construction.

### 3.3 INSTALLATION

- A. Install devices in accordance with manufacturer's instruction at locations indicated on the floor drawing plans.
- B. Perform installation with qualified service personnel.
- C. Install devices in accordance with the National Electrical Code or applicable local codes.
- C. Ensure selected location is secure and offers protection from accidental damage.

### 3.4 FIELD QUALITY CONTROL

- A. Test snugness of mounting screws of all installed equipment.
- B. Test proper operation of all VMS devices.
- C. Determine and report all problems to the manufacturer's customer service department.

### 3.5 ADJUSTING

- A. Make proper adjustment to video system devices for correct operation in accordance with manufacturer's instructions.

### 3.6 DEMONSTRATION

- A. Demonstrate at final inspection that the VMS is functioning properly.

END OF SECTION