REQUEST for PROPOSALS for
IP VIDEO SURVEILLANCE and VIDEO
MANAGEMENT SYSTEM
for
New Residence Hall
Brevard College
1 Brevard College Drive
Brevard, NC 28712

Updated: 3/25/2016
BACKGROUND

Brevard College is a small liberal arts college located in the mountains of western NC. Brevard College is committed to an experiential liberal arts education that encourages personal growth and inspires artistic, intellectual, and social action.

The college is currently building a new residence hall, and is seeking bids for installation and configuration of an IP based camera and video management system.

TIMELINE

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<th>Date</th>
<th>Event</th>
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<tr>
<td>April 28, 2016</td>
<td>RFP issued</td>
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<tr>
<td>April 8, 2016</td>
<td>Deadline for questions</td>
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<tr>
<td>April 15, 2016</td>
<td>Proposals due via email by 4:00pm</td>
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<tr>
<td>April 18, 2016</td>
<td>Declaration of successful vendor</td>
</tr>
<tr>
<td>July 1, 2016</td>
<td>Complete Installation</td>
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<tr>
<td>August 1, 2016</td>
<td>Brevard College acceptance of system</td>
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INTRODUCTION
Brevard College is seeking bids for a turnkey IP Camera and VMS installation and integration. The contractor shall provide pricing and labor services for a new Video Management System (VMS) and associated IP Cameras at Brevard College – New Residence Hall. The contractor will utilize existing network infrastructure (Ethernet wiring, HP PoE network switches, server racks). All operating characteristics, features, capabilities, performance criteria, and other attributes of the system proposed by the contractor must meet or exceed all of the Specifications described herein.

Proposals
All proposals shall be submitted via email to trussellj@brevard.edu by 4:00pm on Friday, April 15, 2016. All bidders will be notified via email when a selection is made. All bids are considered public. The winning bid will be published by Brevard College to https://my.brevard.edu/ICS/Offices/Information_Technology/RFP_for_Current_Projects.jnz.

When preparing bid document please separate labor costs (with estimated hours) from other deliverables.

The specifications below are a solution that will meet the needs of Brevard College. Substitutions are allowed. Any equivalent or equal solutions must be described in detail in the proposal, and must meet or exceed the system described below. All cost including accessories, parts, licensing, travel, and labor must be included in the final price.

This project is funded by the US Department of Agriculture (USDA). All bidders must be eligible to receive USDA funds.

General
The contractor is to provide materials, equipment and installation services, necessary for a successful installation of a complete and operational VMS and IP Camera system as specified herein. It is the intent of this specification that all items under these sections be engineered, assembled, installed and maintained by, and under the full responsibility of the contractor, whether these processes are actually performed by the contractor or not.

Brevard College is seeking bids for an IP Configure Software Installation and Integration with new IP cameras throughout the new Residence Hall – Phase 1 at Brevard College.

Door Access Integration
Brevard College employs Blackboard Transact for door access control. Integration with the Transact system is desired, but not required.
Video Management System

This project is the first of many IP based camera projects on campus. As such, the proposed VMS should allow for growth and expansion. The system shall be able to scale to support future expansions to all 7 residence halls, and 23 academic and administrative buildings on campus without the need for re-architecting or replacement. Additionally, the system shall be camera manufacturer agnostic, accepting input from any ONVIF standard compliant camera. The system shall not require any thick clients and shall be fully manageable from a web based interface.

The system as described below is based on the video surveillance control and management portion of the Video Insight’s VMS.

**Key requirements:**

- The system shall be able to scale to support future expansions to all 23 buildings on campus
- The system shall be a full browser based Video Management System (VMS).
- The system shall support virtually all leading IP and analog camera encoder manufacturers for user choice and design flexibility, including IP Cameras by AXIS, Infinova, March Networks, Arecont, Bosch, IQinVision, Mobotix, Panasonic, Samsung, Sony, and other ONVIF compliant devices.
- The system shall offer a full featured web-client software applications intended for:
  - Live video monitoring
  - Archive video investigations
  - System management
  - System health
  - System diagnostics, status and statistics
  - System mass management
  - System firmware management
  - Instantaneous retrieval of archived video
  - Evidence exportation and production
- The system shall support multiple video compression algorithms simultaneously (including H.264/MPEG-4 Main Profile (Part 10), MPEG-4 Simple Profile (Part 2) and JPEG).
- Camera software license management must allow license transfers without interaction from vendor.
- The system solution shall simultaneously handle recording, archiving, retrieving, playback and live distribution of video and audio.
- Users shall be allowed to stream video clips or images to their PCs for management or to a USB-connected media storage device (e.g., CD Burner, DVD Burner or USB memory stick) for export from the system. All data shall be completely appropriate for use in evidentiary situations, and shall include a tamper-proof authentication seal for evidence security and continuity purposes. Third parties such as law enforcement officials and others shall be able to playback and assess all evidence using any of the PC industry’s standard media player software applications.
- Viewing and managing from a mobile device is desired, but not required.
• The server shall be designed to run on a Windows platform, supporting both professional
desktop and server class operating systems including Windows 7, 8, 10 and 2008 and 2012.
• The server shall run as a Window’s Service. This service shall run as part of the local service
account. This service shall be running as long as the system is booted and has started Windows.
It shall not require the user to be logged in.
• The service shall connect to the camera and handle streaming to the server. It shall not require
each client to connect to individual cameras.
• This service shall allow the cameras to be placed on one network and the clients on a separate
network using a different IP range.
• The server shall record the video streams from different cameras.
• The server shall support motion detection at the camera and at the software levels.
• The server shall allow for multiple zones to be set within an image that support differing motion
detection values within a cameras field of view.
• The server shall support the use of imported maps to show camera placement. These maps will
be in .jpg, .gif, or .bmp formats as determined by the user.
• The server shall not require the administrator to contact the manufacturer to replace a camera.
• The server shall support reporting to a diagnostic tool.
• The server shall support pre-motion and post motion recording.
• The server shall support customizable layouts. The layouts will allow for blank spaces within the
layout.
• The server shall support an unlimited number of users.
• The server will include a diagnostic version with limited interface, to allow for testing of the
server.
• A rules engine shall be included to allow the server to handle more complex tasks.
• The server shall support time out functionality.
• A universal RTSP (real time streaming protocol) option shall exist for adding cameras if they are
not currently supported through native APIs.
• PTZ functionality within the camera will be supported.
• The server will only stream video to clients that the clients request.
• If live video is paused, then the server shall stop streaming video to the clients to conserve
bandwidth.

Licensing:
• The system shall have an enterprise base license that allows access to all basic features and
functionality without any additional licenses except camera licenses.
• Edge device license shall not be tied to a hardware address (MAC Address).
• Camera licenses may be moved between recording servers
• All camera licenses are moveable without requiring manufacturer action of any type.
• The web-client applications can be used on an unlimited number of times and may be running
simultaneously without any additional licenses.
• Each recording server shall be capable of supporting a minimum of 100 edge device connection
licenses.
Server Requirements:

- The server shall be designed with the following capabilities per camera:
  - 30 days continuous recording
  - 16 FPS Frame Rate
  - 40% motion in the viewing area
- The server shall run Microsoft Server 2012 with a minimum CPU performance of a PassMark of 15,000 or better (Intel Xeon E5-2650 v3 @ 2.3 GHz)
- The server shall be configured with a minimum of 8 Gb of Ram
- The server shall be rack mountable in a standard 4 post rack
- The server shall include an uninterruptable power supply which will provide up to 60 minutes of reserve power

Cameras

Interior Camera

Installation of 22 each Samsung SNV-6013 Indoor Network Camera for the Hallways, 12 each Samsung SND-L6083R Indoor Network Cameras for the Commons Area, and 1 each Samsung SNF-7010 Indoor Network Camera for the Laundry Area as designated on the prints provided and per information provided below.

All indoor cameras are ceiling mounted. All lighting fixtures in the new residence hall hang 1’ below the drywall ceiling. To avoid visual obstruction from light fixtures, all indoor cameras must include a 1’ ceiling mount. Samsung SBP-300CM is recommended.

SNV-6013 - 2 MEGAPIXEL FULL HD VANDAL RESISTANT NETWORK DOME CAMERA

- The camera shall be of a compact flat dome type suitable for internal or external installation.
- The camera shall be ivory in appearance.
- The network camera shall feature up to 2 Mega Pixel Full HD (1080p) resolution in a 16:9 format as well as 4:3 formats in smaller resolutions.
- The camera should be capable of capturing and transmitting an image size of 1920 x 1080 at 60 images per second.

SND-L6083R - 2 MEGAPIXEL FULL HD NETWORK IR DOME CAMERA

- The camera shall be of a compact flat dome type suitable for internal or external installation.
- The camera shall be ivory in appearance.
- The network camera shall feature up to 2 Mega Pixel Full HD (1080p) resolution in a 16:9 format as well as 4:3 formats in smaller resolutions.
- The camera should be capable of capturing and transmitting an image size of 1920 x 1080 at 60 images per second.

SNF-7010 - 3 MEGAPIXEL FULL HD NETWORK FISHEYE CAMERA

- The camera shall be of a compact flat dome type suitable for internal or external installation.
The camera shall be ivory in appearance.

The network camera shall feature up to 2 Mega Pixel Full HD (1080p) resolution in a 16:9 format as well as 4:3 formats in smaller resolutions.

The camera shall allow for 360° recording, and provide for lens distortion correction.

The camera should be capable of capturing and transmitting an image size of 1920 x 1080 at 60 images per second.

**External Camera**

Installation of 3 each Samsung SNV-5084 Indoor/Outdoor Network Camera as designated on the prints provided and per information provided below.

- **SNV-5084 – 1.3 MEGAPIXEL FULL HD VANDAL RESISTANT NETWORK DOME CAMERA**
  - The camera shall be of a compact flat dome type suitable for internal or external installation.
  - The camera shall be ivory in appearance.
  - The camera shall have an IK10 vandal-resistant and IP66 waterproof body.
  - The network camera shall feature up to 1.32 Mega Pixel Full HD (1080p) resolution in a 16:9 format as well as 4:3 formats in smaller resolutions.
  - Face/Motion Detection
  - Day/Night Emphasizing

**General Specifications**

All cameras must meet these general specifications

**ELECTRICAL SPECIFICATIONS**

- Input Voltage: Power over Ethernet (Class 1 or 3 type )
- Power Consumption: Maximum 12.94W

**CAMERA**

- Total Pixels (horizontal x vertical): 1,952 x 1,116 Indoor/ 1,312 x 1,069 Outdoor
- Effective Pixels (horizontal x vertical): 1,944 x 1,104 Indoor/ 1,305 x 1,049 Outdoor
- Scanning System: Progressive
- Min. Illumination: 0.1Lux Indoor/.05 Outdoor (1/30sec, F1.2, 50IRE), 0.0017Lux Indoor/.0008 Outdoor (2sec, F1.2, 50IRE)

**LENS**

- Standard camera lens.

**OPERATIONAL SPECIFICATIONS**

- Camera Title: Off, On (displays 45 characters)
- Day and Night: Auto (Electrical), Color, B/W
- Backlight Compensation: BLC, Off
- Contract Enhancement: Off, On
- Digital Noise Reduction: Off, On
- Digital Image Stabilization: Off, On
- Defog: Off, Auto, Manual (for outdoor cameras)
- Motion Detection: Off, On (4ea 4 points polygonal zones)
- Privacy Masking: Off, On (32 zones with 4 points of polygonal)
- Gain Control: Off, Low, Middle, High
- White Balance: ATW AWC, Manual, Indoor, Outdoor
- Electronic Shutter Speed: Minimum, Maximum, A.FLK(2~1/12,000sec)
- Flip/Mirror: Off, On
- Intelligent Video Analytics: Tampering, Virtual line, Enter/Exit, Appear/Disappear, Face detection
- Alarm Triggers: Motion detection, Face detection, Video analytics, Network disconnection, Tampering
- Alarm Events: File upload via FTP and E-Mail Notification via E-Mail, recording at Event

NETWORKING
- Ethernet: RJ-45 10/100Base-T
- Video Compression: H.264 (MPEG-4 Part 10/AVC), Motion JPEG
- Resolution: 1920x1080 (for indoor cameras) / 1280x1024 / 1280x720 / 1024x768 / 800x600 / 800x450 / 640x480
- Max Frame rate:
  - H.264: Max 60fps at all resolutions.
  - Motion JPEG: 1920x1080 (for indoor cameras) / 1280x1024 / 1280x960 / 1280x720 / 1024x768: Max. 15 fps
    800x600/800x450/640x480: Max. 30fps
- Video Quality Adjustment:
  - H.264: Compression level, Target bitrate level control
  - MJPEG: Quality level control
- Bitrate Control:
  - H.264 MPEG-4: VBR or CBR
  - MJPEG: VBR
- Streaming: Multiple, up to 10 profiles
- IP: IPv4, IPv6
- Network Protocol: TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP
- Security: HTTPS (SSL) login authentication, Digest login authentication, IP Address filtering, User access log, 802.1x authentication
- Streaming Method: Unicast, Multicast
- User Access: 15 users at Unicast level
- Memory Slot: Micro SD/SDHC/SDXC for cameras that support internal memory
Recorded data in the SD/SDHC/SDXC memory card can be downloaded

- **ONVIF Conformance:** ONVIF Profile S, HTTP API v2.0, SVNP 1.2
- **Webpage Language:** English
- **Web Viewer**
- **Supported OS:** Windows 7/8/10, MAC OS X 10.7+
- **Supported Browser:**
  - Microsoft Internet Explorer (Ver. 10 or higher),
  - Mozilla Firefox
  - Google Chrome
  - Apple Safari (Ver. 6.0.2 (Mac OS X 10.8, 10.7 Only), 5.1.7)
  * Mac OS X Only
- **Smart Codec:** Yes (Area based method)

**ENVIRONMENTAL SPECIFICATIONS**

- **Operating Temperature:** –10 °C ~ +55 °C (+14 °F ~ +131 °F)
- **Operating Humidity:** Less than 90% RH
- **Storage Temperature:** –30 °C ~ +60 °C (+14 °F ~ +131 °F)
- **Storage Humidity:** Less than 90% RH
- **Ingress Protection:** IP66 for outdoor cameras
- **Vandal Resistance:** IK10 for outdoor cameras

**PHYSICAL SPECIFICATIONS**

- **Color:** Ivory
- **Materials:** Aluminum

**CERTIFICATIONS**

- UL Listed
- CE mark
- FCC mark

**Camera Counts**

<table>
<thead>
<tr>
<th>22 each</th>
<th>SNV-6013</th>
<th>Hallways</th>
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<tbody>
<tr>
<td>1 each</td>
<td>SNF-7010</td>
<td>Laundry</td>
</tr>
<tr>
<td>12 each</td>
<td>SND-L6083R</td>
<td>Common Area</td>
</tr>
<tr>
<td>3 each</td>
<td>SNV-5084</td>
<td>Exterior of Building</td>
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Key Deliverables

- OS and Hardware Readiness Assessment
- Provide and install 3 Samsung Exterior Cameras (Part Number SNV-5084), 22 Samsung Interior Cameras (Part Number SNV-6013), 12 Samsung Interior Cameras (Part Number SND-L6083R, and 1 Samsung Interior Fisheye Camera (Part Number SNF-7010).
- Brevard will provide technician to oversee/advise, assist Contractor Technician as needed when accessing network.
- Install and configure server with storage/archiving schemes
- Install UPS
- Add 38 camera channels and configure according to customer requirements
- Initial motion detection configuration for all installed devices
- Configure end user permissions
- Install up to 3 Client stations
- Configure scheduling profiles, email notifications, view groups, matrix recipient(s)
- Configure input events from encoders in multiple zones and associate to an alarm definition which includes multiple cameras and/or multi-camera matrix views
- Create up to 1 map with all included cameras
- 8 hours of operation training for Brevard College administrators and security personnel
- System testing to ensure functional goals are achieved
- Contractor shall provide a statement of work and implementation plan before any work is started.

Installation Requirements and Warranty

- A performance test of the entire system shall be conducted by the Contractor in the presence of the Owner for each location.
- After the performance tests have demonstrated the operation of the complete system, the system shall be accepted by the Owner.
- Once the performance test has been completed and the Owner has indicated its acceptance of the system a Trial Period Test shall begin. The system shall operate without software issues for a period of 90 days.
- In the event there is software failure, the Trial Period Test shall start again. The 1-year warranty shall not commence until this Trial Period Test has been acceptably completed.
- For the 1-year period, telephone support will be provided to assist Brevard College technical staff in troubleshooting efforts, provide assistance with upgrades/hot fixes/service packs, provide support on application related questions and perform remote diagnostics (when applicable). Phone support needs to be available 24/7/365.
- For the 1-year period, a technician will provide on-site support to resolve problems or system failures at the End User site(s), for issues that cannot be corrected through the telephone or remote services.
- All equipment will come with a minimum of a 1 year warranty for physical defects/failures.
Training and Instruction
The following general conditions and requirements shall be followed by the Contractor and or Distributor:

- Training will be conducted on site and will be provided by experienced, knowledgeable personnel. This training shall be completed prior to the start of the Performance Test and will last 8 hours to include administrative staff and all security personnel operating the Security Center client stations.
- Supervisory personnel shall receive detailed instructions in the initial setup of the system prior to installation, operating procedures, routine preventive maintenance and routine servicing of all Security equipment.
  - Training shall be conducted by experienced, knowledgeable personnel, and shall utilize the actual system software being supplied with special emphasis on the Brevard College will coordinate time of training with contractor after system has been accepted.

Ongoing Cost
Yearly Maintenance/Licensing
For budgetary purposes, any ongoing cost will also be estimated for a period covering 1 year. This includes optional hardware maintenance and server, software, and camera licenses.

Training and Support Cost
For budgetary purposes, an estimate will be provided to hold an administrator and end user training session as defined above. An estimate will also be provided for an additional 1 year of support as described above.