

## Safety and Security Cameras

In connection with the Safety and Security Camera Acceptable Use Policy (No. 5617), Communications Network Services (CNS) assembled a small team to work on the specifications for cameras which they believe will work with most any system the university may deploy in the future. These products also have built-in management software that can be used in the interim. The three companies reviewed were:

Axis (<http://www.axis.com/products/video/camera/>)

4XEM (<http://www.4xem.com/products/indoorcameras>)

Pelco (<http://www.pelco.com/sites/global/en/products/products.page>)

Other companies and products are being reviewed, so we may expect the list above to grow. Please note that CNS currently uses Axis products in the IT area, ICTAS is using the 4XEM brand cameras, and the Pelco products listed above seem to be on every potential vendor's list. As long as the security cameras are IP-based, they should work with whatever enterprise system the university chooses in the future.

CNS has provided a brief list of specifications to consider in order to avoid the purchase of a system that may not be compatible with a future environment. The following specifications should be self-explanatory to the vendors:

### Network Considerations

- Power over ethernet
- IP and IPv6
  - DHCP for IP configuration

### Security

- HTTPS for system configuration
  - User can install the server certificate and chain.
- All control and image transfer must be encrypted with standards-based cryptography, e.g. SSL, SRTP, etc.
- Access Control
  - Different access levels/accounts for routine image fetching and administrative access.
- Can the camera survive on a real network, or is it necessary to provision a special network? (May add significantly to the cost of deployment.)
- NTP (for time synchronization)

- syslog (for audit logging)

## Standards

- API for operating the camera and transferring images must be publicly available and unencumbered by license.
- Camera should be fully configurable via a web browser with standard JavaScript and possible Java.”

Please note that the use of a Digital Video Recorder (DVR) is not consistent with the university policy, but temporary local storage should be employed until the university system and centralized storage is available. The use of a DVR will require translation into a different digital format later.

A better solution might be the purchase of a general purpose computer with local storage so the data can be stored in a standard MPEG format which will be used in the university centralized location. Although this may require the purchase of a machine (or a new use of an existing machine), the host can be reused or repurposed later when the central system is online.

University Purchasing can assist with a contract purchase of cameras and management software.

Please e-mail CNS at [camerareview@vt.edu](mailto:camerareview@vt.edu) with questions or concerns regarding security cameras and recording systems.