Digital Video Matrix/Multiplexor Switching in the Savoy Console Application

Video Matrix Switches and Multiplexors are commodity components in high-end video surveillance systems. These hardware units combine multiple video sources into 2x2, 3x3, or 4x4 views and then switch the output onto one of several monitors.

Hardware Switchers and Multiplexors are ‘hardwired’ to specific configurations and not easily changed. For example, the placements of cameras on an NxN view are accomplished by physical cabling of video inputs. Further, since they operate with analog video signals, they are restricted to video sources in close proximity to the viewing station.

Savoy digital video system now offers Matrix/Multiplexor Switching in the Savoy Console application. While some comparison with hardware equipment may be helpful, the advantages of digital Matrix Switching are numerous:

- Any number of ‘software’ Matrixes can be created
- Matrixes can be assigned to separate displays or overlaid onto common displays
- NxN views configurations can be comprised of cameras from any site
- Up to 10 unique configurations per Matrix
- Configurations managed through a simple on-line Configuration dialog

Figure 1 Savoy's Console showing video from four servers across three remote sites

Savoy's main Console display can automatically aggregate the video from many remote sites. As new sites are connected, the video windows resize and tile to make room for the new ones. Each camera remains grouped, however, with other cameras on the same server.

With Matrix/Multiplexor switching, we are able to group them the way the user wants, regardless of which server they're connected to. Further, we can create Multiplexed views of any dimension (1x1 … 4x4). Finally, there can be many such configurations per Matrix, as shown below.

Figure 2 Savoy's Console with three Multiplexed Matrixes (2x2, 3x3, and 4x4)

The video sources assigned to the NxN Matrix views can be dynamically configured from all cameras across the Internet.

Up to 8 Matrix outputs can be created, and each Matrix can have up to 10 configurations each. Configurations are instantly switched using the Keyboard's numeric keypad. The selection of the Matrix is done by pressing function key F1 followed by the Matrix number.

The Matrixes can appear on individual displays, or overlaid onto a single display.

Notifications from remote servers carry their unique Mux configuration, giving the Console operator the appropriate camera configuration for the specific event.