Streaming Video
Dual VMS Systems

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1. DUAL VMS SYSTEMS

1.1 INTRODUCTION

The advent of integrating stakeholder cameras into a centralized security center introduces the challenge of multiple Video Management Software (VMS) systems. As VMS vendors are competitors in an ever changing marketplace, the solutions typically lack interoperability. However, the more popular encoders and cameras (with the exception of completely closed systems such as Indigovision), are compatible with the majority of the most popular VMS systems, and offer a bi-directional synchronization with the VMS system, and the more contemporary encoders can provide independent multiple streams, and/or use multicast.

1.2 TEST PLAN

The test plan was to simply setup two completely separate VMS systems, set the encoders/cameras to multicast, if applicable, and input them into both VMS systems. This is a quick test to confirm accessibility to a video stream in two separate VMS systems. Other functions, such as I/O ports, alarms, events, motion detection, etc were not tested.

1.2.1 TEST ENVIRONMENT

This test was done using two separate VMS systems on two separate computers. The latest version of OnSSI was installed onto a Windows XP workstation. The Genetec 4.6 Omnicast system was installed onto a Windows 2003 Server. The network is a basic LAN, with a small DLINK router as a gateway and firewall.

The assumption is that enterprise-level Layer 2 switches and routers can provide more control, sophistication and security to this solution within an enterprise environment.

1.2.2 TEST EQUIPMENT

The test equipment includes an Axis 215PTZ camera (192.168.1.16) to test for control issues. Both VMS systems were given PTZ controls for this test. A fixed IR camera was connected to an Axis Q7401 encoder (192.168.1.22), and an older Verint s1700 encoder (192.168.1.12), was connected to a wireless IR camera.

All three of these encoders have bi-directional communications with the VMS systems. Any changes made in the VMS are then synchronized with the encoder/camera, and visa versa. The assumption is that any encoder that loses all its control to a VMS system and does not provide completely independent streaming capabilities will not work.

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1.2.3 SETUP

In Genetec, the network connectivity for video streaming was set to "Best Available." The Config Tool confirm that Genetec chose "Multicast" upon streaming, once the second VMS was introduced. OnSSI did not provide a menu of options, nor was it as granular in commissioning flexibility as Genetec.

Figure 1 depicts all three cameras within Genetec Omnicast 4.6 Live Viewer.



Figure 1: Three cameras in Genetec Omnicast 4.6

The Verint s1700 encoder (upper right above) required a manual setup to initiate the second stream within the telnet menu. The Ports for streaming the multicast video was uncovered using Wireshark (see Figure 2) as unlike Genetec, OnSSI did not display the information (that I could find).

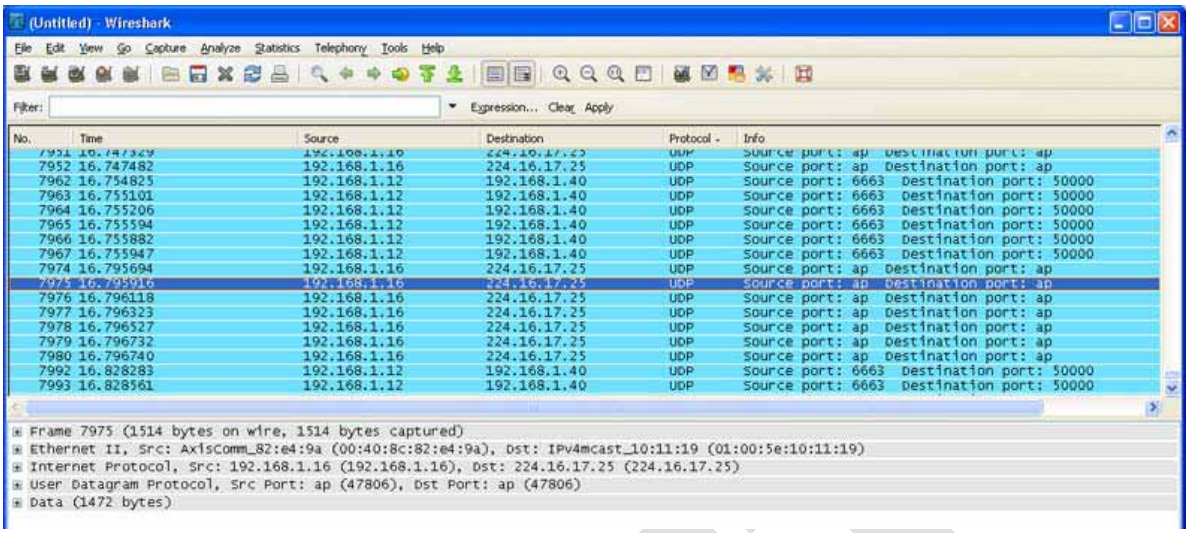


Figure 2 Wireshark OnSSI Server

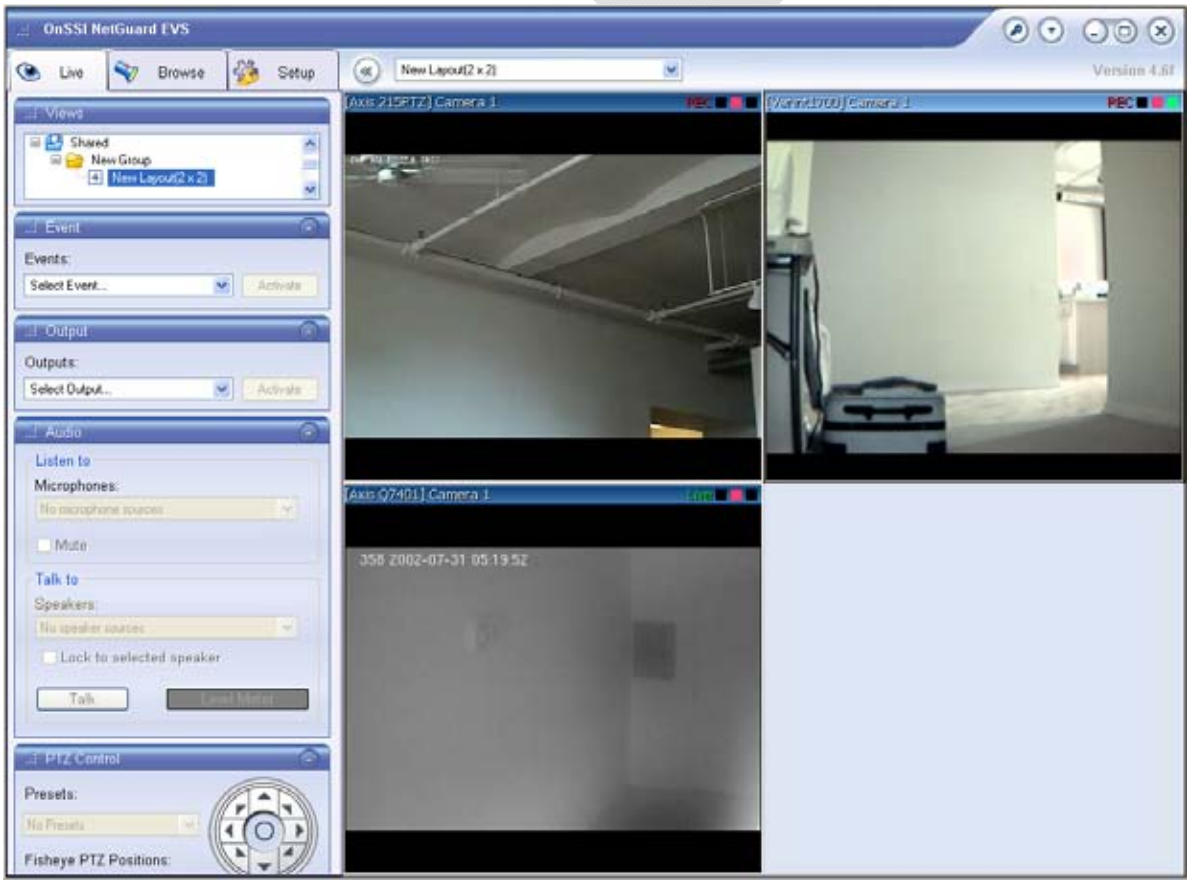


Figure 3: The same video streams in OnSSI

1.3 RESOLUTION CONTROLS

Upon changing the resolution in Genetec, this initated the bi-directional synchronization with the encoder/camera, which then resynchronized the bi-directional connection with the other VMS system. Again, this worked with the following encoders/cameras:

- Axis 215 PTZ
- Axis Q7401
- Verint s1700

1.4 PTZ CONTROL

The initiation of the PTZ function of the Axis 215 PTZ in Genetec showed solid controls, with the stream having a five second lag time in OnSSI. However, the attempt to control PTZ function while in OnSSI severed the connection in OnSSI and the camera began spinning out of control in Genetec.

Obviously, this is where the control issue becomes a problem, let alone that operationally, this is a bad idea anyway.

1.5 CONCLUSION

Based on the equipment and VMS systems used, this could be an option that works, as long as a single VMS keeps control of the PTZ function. The upside is a faster integration process; the downside is a more granular security plan as there will no longer be physical hardware separation (unique encoder for each VMS system).

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