Remote Support – A True Story

One of the advantages of installing IntraVUE is the ability to enable remote support. As many companies reduce staffing or have certain time periods and locations in which resources are limited, Network Vision can provide valuable remote support. The following is an actual example of this capability.

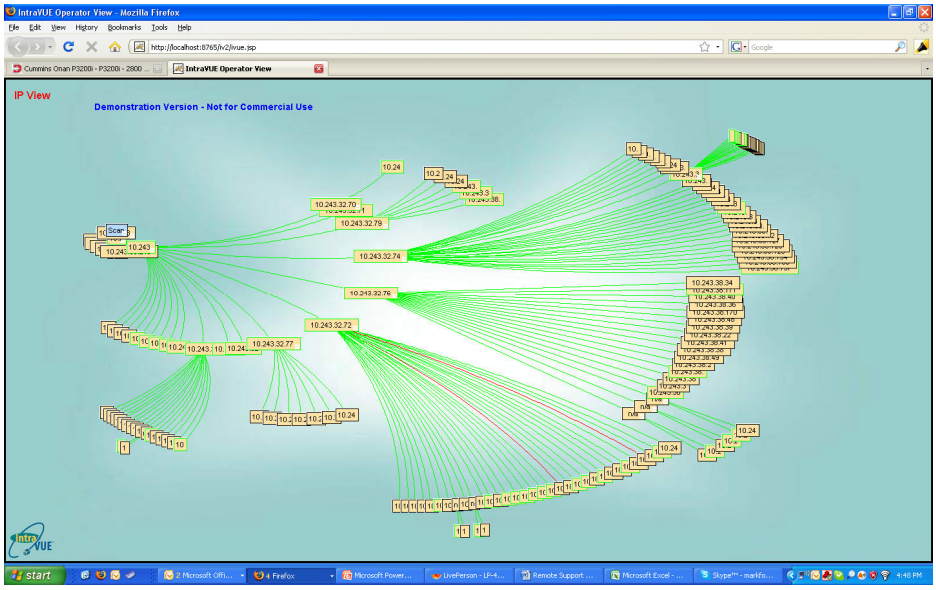
It was about 5:30 am when the processing lines at a major food company were disrupted. It was not the first time that this problem had happened, however the intermittent nature made it difficult to diagnose. The difference from previous occurrences was IntraVUE, a software package from Network Vision, was now installed and running. IntraVUE makes it easy to push a button on the graphical interface and make a back-up of the data being collected. A back-up of the IntraVUE database was then sent to Network Vision in an email message at 6:40 am.

Network Vision received the data and started to analyze all the recorded information to determine the root cause of the disturbance. The plant had sniffers such as Wire Shark, but these software tools have limited capability to associate all the necessary details to determine cause & effect. In addition individuals at the plant at this hour sometimes may not have a great deal of Network expertise.

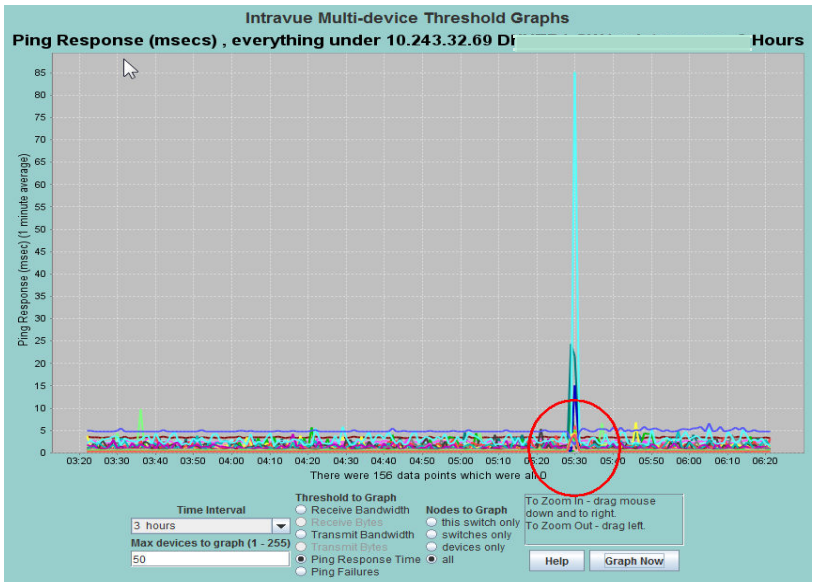
Network Vision opened up the database and started to review the data collected. After a two hour analysis the cause of the disruption was identified and reported back to the plant.

The following is the steps that lead to identifying the cause of the disturbance.

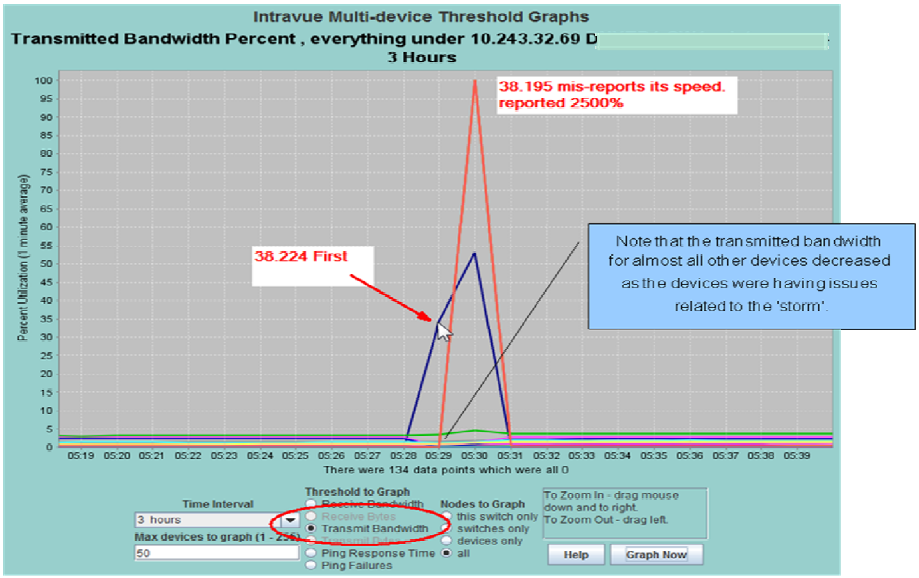
Opening up the data file revealed a network of 171 devices in which the back-up was taken at 6:21 am.



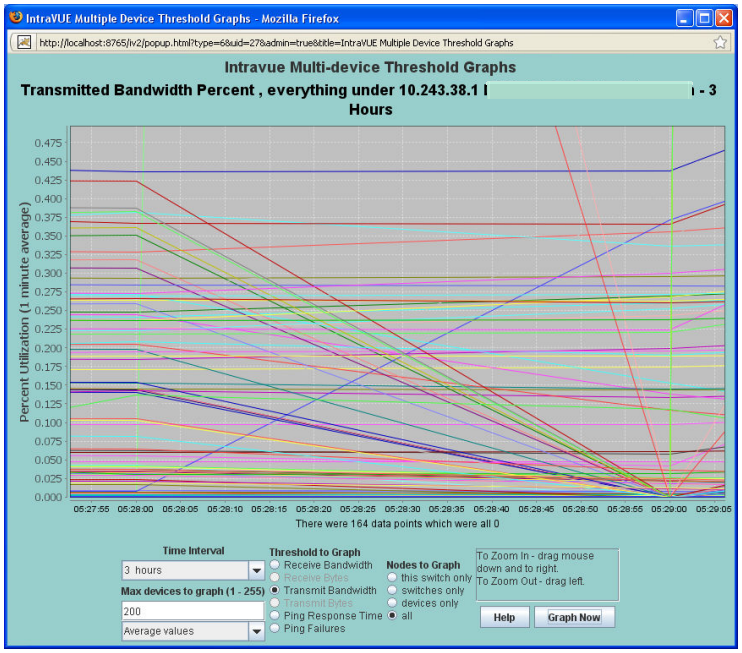
The Threshold Graphs dialog clearly identified the disruption at 5:29 am as seen in the picture below. The ping response time showed a number of devices being affected.



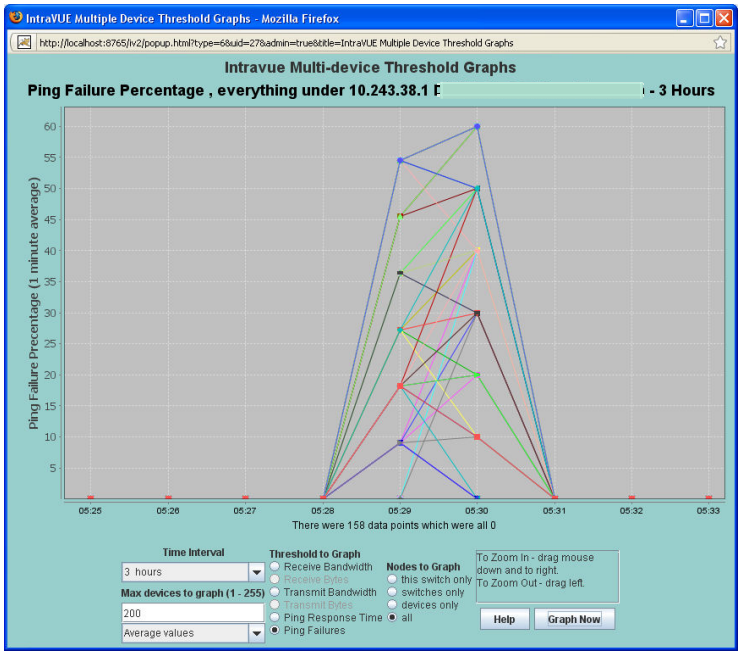
Switching to transmitted bandwidth provided the ability to see if any devices were generating greater than normal Transmitted data. A detailed view showed a single device initiating a spike in bandwidth while many other devices dropping transmitted data. A second device generated a spike but was evaluated as mis-reporting the speed of the link. There are 47 of these devices and only one reporting the wrong port speed. However the device is showing a spike in transmit bandwidth and must be analyzed in greater detail.



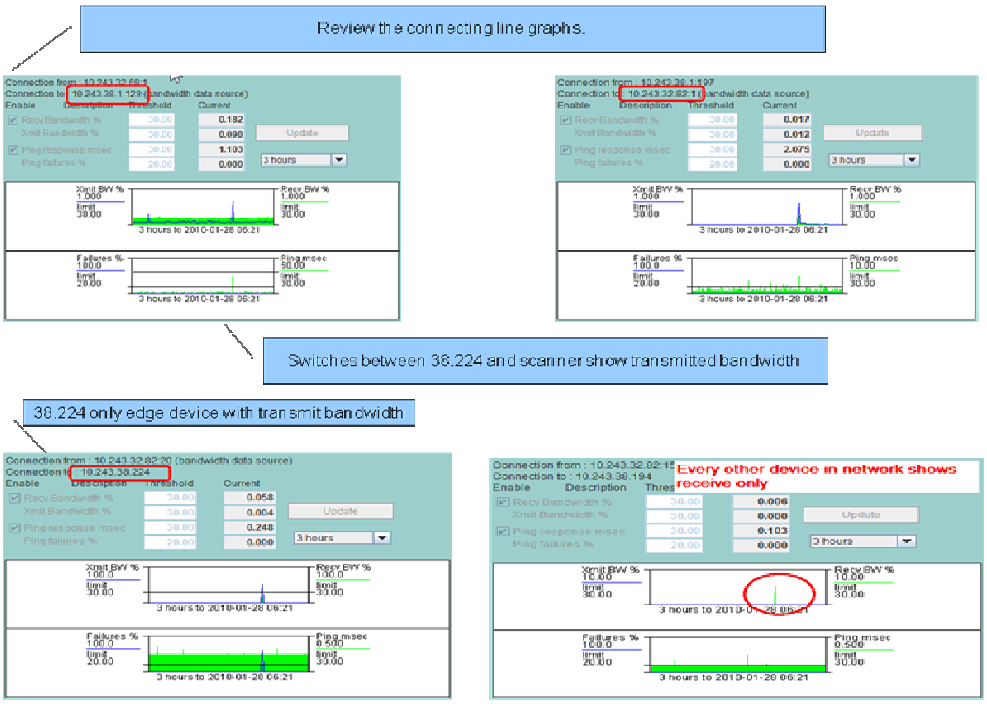
As important as the spike of two devices is the decrease in transmitted bandwidth as many devices affected by the broadcast storm stopped transmitting. Many of these devices also stopped responding to pings at the same time. These can be seen from the following two views.



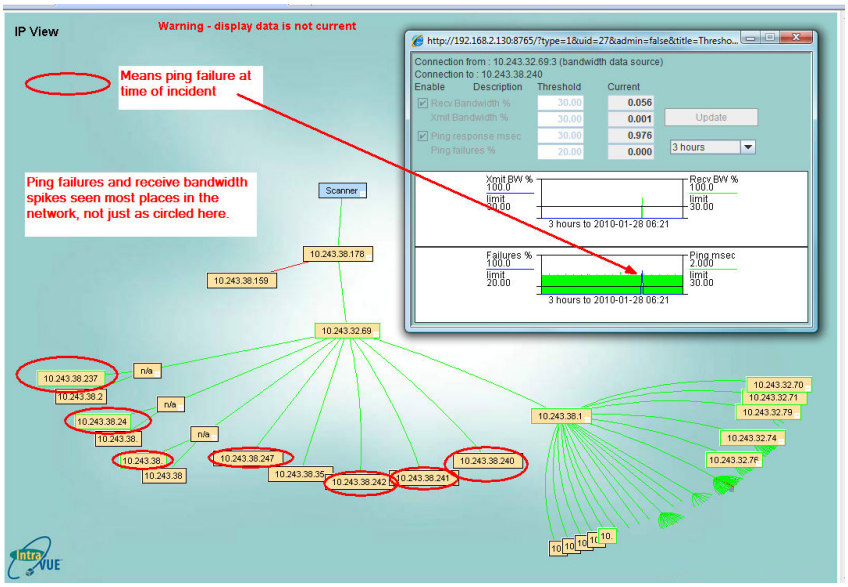
Detailed view showing transmitted bandwidth dropped by many devices at the time of the disruption.



Ping Failures showing the devices being affected by the disruption.



The device with IP address 10.243.38.224 ↖ was the only device with a spike in transmitted traffic. The switches between the affected device and the IntraVUE computer also showed transmitted bandwidth on the uplink ports. This is indicative of a Broadcast Strom in which traffic is sent out and would be seen by all devices in the subnet.



The broadcast storm affected a limited number of devices which were susceptible to Arp traffic. As seen above with a ping failure spike at the same time an increase of received traffic is occurring. IntraVUE can thus show which devices were affected and thus can help explain why a disruption can be limited to certain equipment.

Conclusion:

The device which created the disturbance was identified by IP address as a sub-component of a weighing system. It is unclear if this was the device that created the several incidents prior to this upset. It will however be replaced and watched to insure there are no other problems.

Having Network Vision help analyze the data and generate a report will help local resources to be more aware and capable of understanding the details if this should occur again. Network Vision was able to analyze the problem without having to travel to the plant and generate a report on the potential cause in a few hours.

As resources are stretched thin in most companies, Network Vision is expanding the capability of our software to enhance remote support. Installing IntraVUE will not only simplify troubleshooting Ethernet communications locally but enable cost effective remote support.