NBUSA CASE STUDY

Huntsville ISD

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Tracie Simental
IT Director

INDUSTRY Education

In January 2004, Tracie Simental, Director of IT at Huntsville Independent School District (Huntsville ISD) faced a decision for renewing the web-filtering software license the district was using; a renewal fee that had doubled in just one year, to top $25,000.

Huntsville ISD is a suburban school district located 70 miles North of Houston, Texas. The district serves approximately 6,650 students in grades K-12. Children's Internet Protection Act (CIPA) was enacted by congress in December 2000 and in 2001 the FCC issued rules to ensure CIPA is carried out. Schools and libraries subject to CIPA receive discounts offered by the "E-Rate" program if they can certify that they have certain Internet safety measures in place. These include measures to block or filter pictures that are obscene, contain child pornography, or are harmful to minors when computers with Internet access are used by minors. The discounts make access to Internet affordable to schools and libraries.

At the beginning of 2004 the only protection from the Internet threats Huntsville ISD had was a firewall. There was neither a gateway antivirus nor an Intrusion Detection System (IDS) or Intrusion Prevention System (IPS). Antivirus software was only installed on the Exchange server and on the workstations. In fact, another project in the mind of Ms. Simental was a gateway antivirus. By then, gateway antivirus appliances were already widely used and Ms. Simental was awaiting the next budget cycle.

Spam was another major problem for Huntsville ISD. The amount of spam received every day was not exactly known, but it was obvious that spam was becoming a serious issue that would only get worse with time, and it had to be addressed. Ms. Simental was investigating several different dedicated solutions.

Bandwidth utilization was another problem in Ms. Simental's daily worries. Despite a bandwidth of only 3Mbps for about 2,000 users, the general perception was that the bandwidth was sufficient but it just wasn't being utilized efficiently. Ms. Simental needed evidence to convince the board that more bandwidth was indeed necessary. Huntsville ISD did not have the tools to determine what was actually consuming the bandwidth and causing poor users' experience. Ms. Simental was considering purchasing a product to implement traffic shaping and quality of service, and another for web caching, to help improve the users' browsing experience without having to purchase more bandwidth.

With all these projects in mind and all the support work that needed to be done on a daily basis, antivirus HTTP scanning and anti spy-ware gateway was not in any of her plans, immediate or future. Anti spy-ware was perceived as a desktop application, the way antivirus was traditionally viewed. Viruses from websites at the beginning of 2004 were not yet as big a threat, as they were to become towards the end of the same year.

Therefore at the beginning of 2004 Ms. Simental was faced with the prospective of having to purchase five different applications, one for each problem, and having to implement them, integrate them with one another, and then self-manage them - all of this still with only one network administrator, and without any warranty that all the applications would have worked well with one another.

That is when Ms. Simental discovered Network Box USA – a service company that implements and manages an all-in-one managed appliance that solved most if not all of the problems Ms. Simental was having, all in one box.

The Network Box solution includes:
- connection tracking and proxy firewalls
- IDP
- 3 Antivirus gateways
- Anti spam
- Web Filtering and Company policy management
- Caching
- IPSEC VPN

The appliance offers also encrypted PPTP VPN and other features. It has a web based GUI that allows the user to gather useful information about network utilization, users activity, viruses, spam, attacks, and to also check the current health status of the box itself. The appliance is remotely managed by Network Box USA, a distributor of the Network Box. Management and remote monitoring of the appliance are included in the initial price, as are the unlimited push updates of signatures and software and configuration changes made on customer's request.

Despite an initial skepticism on the possibility that one appliance would handle all that traffic with all those functions at once, Ms. Simental decided it was worth trying the product because the potential benefits far outweighed the risk of a trial.

The initial installation and configuration turned out to be more difficult than expected, given the peculiarities of the environment. The managed service immediately revealed to be very helpful in reaching a conclusion of the installation. Without the managed service the installation might not have been possible at all, given that this was a new product and the ISD lacked the man power to take on a new load.

After one year Ms. Simental decided to purchase a second box, in a load-balance configuration, to improve performance and have increased availability in case of hardware failure.

Today Ms. Simental reports that the Network Box saved the ISD at least $35,000 in hardware and software alone, plus at least one head count that she would have had to hire to manage all the products and applications that she was considering. Network Box has recently added HTTP scanning and spy-ware blocking – free to its existing clients, and this is now considered a very important add-on since both HTTP viruses and spy-ware have become a real threat for any network. Cleaning up machines from spy-ware was costing the ISD an average of 1 man month per year!

Ms. Simental reports that her experience thus far has been that the appliance runs seamlessly: "you don't even know it's there unless you need to make some configuration changes" comments Ms. Simental, "and when I need a change, I open an online ticket and it gets handled almost immediately, which is very nice – I am very happy with the level of service, customer support and attention to customer needs that Network Box USA has demonstrated since the beginning". She also adds "We ran Exchange without antivirus for 6 months. I felt uneasy, but I was amazed that absolutely nothing was getting through!"

Besides doing its functions as expected or better, the Network Box helped also in a number of ways to determine what was really going on inside the ISD network. It helped validate the amount of traffic, provided real time statistics about pick time, usage and network utilization, and helped in the ISD's decision to purchase a 10Mbit connection to the Internet which will be deployed next summer. It also helped demonstrate how important the Internet is

as an education tool, by showing that on average 6 million pages are being downloaded every week.

Today the Network Box is "catching" about 30,000 spam emails per week, thus drastically reducing the amount of emails entering the ISD's network, and also showing how much of an issue spam was and is for the ISD. Ms. Simental has also used the network statistics provided by the Network Box GUI to prove to the ISP that the ISP's router was dropping packets and causing a large amount of unnecessary traffic. According to Ms. Simental, she would have had no other way to prove to the ISP that there was an issue. She was able to demonstrate that there was a very large discrepancy between the statistics shown by the Network Box and the traffic the ISP claimed that the ISD was generating, and this proved that there was a problem in the router.

As it turns out, a traffic shaping appliance would not have solved the problem of bandwidth utilization. As the Network Box statistics show, the ISD bandwidth is fully saturated and there is a strong need for more bandwidth.

Ms. Simental and her team analyze the utilization statistics on a daily basis, to ensure that all activity is legitimate and the network is being kept free of spy-ware and viruses. The logs help the ISD keep track of activity and utilization, and ensure that the ISD resources are being used as appropriate, for educational purposes only. In the mean time, Network Box ensures that the 2 boxes protecting the ISD's network are always updated to the latest available signatures, in real time, to maximize the level of protection the ISD enjoys.