

CASE STUDY

San Marino Unified School District automates DDI and network management on Infoblox solutions



OVERVIEW – ENSURING CONNECTIVITY FOR THE SCHOOL DISTRICT’S FACULTY, STAFF AND STUDENTS

The city of San Marino is one of the smaller municipalities in Los Angeles County, California, with a population of approximately 13,000 living in a geographical footprint under four square miles.

As the home of the world-renowned Huntington Library, San Marino has an international reputation as a literary landmark attracting scholars from many of the world’s leading universities.

Consistently ranking among the top public-school districts in the state of California for academics, San Marino Unified School District enrolls approximately 2,800 students with around 400 faculty, administrators and staff. The district maintains two elementary schools, a middle school and a high school, and as Dr. Stephen Choi, chief technology officer for San Marino Unified, points out, consistent network connectivity has become absolutely critical to education and the district’s mission.

“Our infrastructure is of utmost importance in today’s K-through-12 education environment,” he explains. With Wi-Fi connected devices now standard equipment in even the earliest grades, Choi points out that San Marino USD has come to “rely heavily on network infrastructure for reliable connectivity and online services.” Infoblox solutions have played a central role in that network infrastructure going back more than eight years now.

Customer: San Marino Unified School District
Industry: K-12 Public Education
Location: San Marino, CA

INITIATIVE:

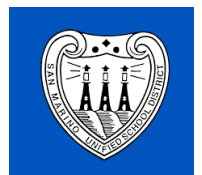
- Automate manual DNS, DHCP and IPAM (DDI) processes
- Consolidate onto a single DDI platform and server appliance
- Provide a strong networking foundation for digital transformation

OUTCOMES:

- Fully automated DDI operations through Infoblox NIOS DDI
- Centralized network management on TrinziC device platform
- Many years of excellent, reliable network performance with Infoblox

SOLUTIONS:

- Infoblox NIOS DDI
- Infoblox Grid
- TrinziC appliances



THE CHALLENGE

Automating complex, manual network management tasks

In 2013, San Marino USD managed its network operations largely on a manual basis. IP addresses for new devices coming onto the district's network had to be individually assigned and recorded in a master spreadsheet. In the same way when devices were taken off of the network, those IP addresses had to be reclaimed and recorded manually. This kind of rudimentary practice for IP address management (IPAM), while still quite common, can easily lead to errors and misassigned devices. The district did have basic servers for DNS operations and for Dynamic Host Configuration Protocol (DHCP), so there was some automation in place. The manual steps in the DNS and IPAM processes meant Choi and his team had to devote considerable time and effort to very basic network management tasks.

That all changed when the team engaged an IT consultant to help with a network upgrade. "We first learned about Infoblox and consolidated DDI solutions [DNS, DHCP and IPAM] when we began that network upgrade process," explains Choi. "Originally, we were concentrating on upgrading our network switches and our Wi-Fi capabilities, but our network consultant highly recommended we consider Infoblox to automate all our DDI operations. The concept of simplifying all of these disparate operations into one appliance and one solution was very attractive. We are a K-12 public-school district with very limited resources and limited staffing. The idea of getting this affordable Infoblox solution where we can have all DDI operations automated and running on a single appliance, while providing high availability, was really attractive."

THE SOLUTION

Infoblox NIOS DDI and Trinzic 550 appliances

Working with their consultant and an account group from Infoblox, Choi and his team mapped out a simple architecture involving two Trinzic server appliances, Infoblox NIOS DDI as the core automation engine and Infoblox Grid as the single control pane interface to govern the system. For many years, Trinzic appliances have been regarded in the IT community as reliable, security-hardened, automated, distributed, high-availability and easy-to-manage machines for powering core network services, security and value-added solutions. The San Marino USD architecture called for a primary production machine and a second to provide failover and network continuity in case the production machine ever went down.

Infoblox's patented Grid technology is a key factor in solving the continuous uptime puzzle. A unified platform for core network services, the Grid delivers the high availability, security and management efficiency that organizations need to flourish in today's hybrid online world. Based on sophisticated distributed database technology, the Grid lets users easily link diverse network appliances into a single, integrated system that's secure, scalable, highly responsive and simple to manage. Effectively, the Grid eliminates single points of failure and enables organizations like San Marino USD to obtain "five 9s" reliability and continuous uptime.

Infoblox NIOS DDI was an industry first when it debuted: the original solution consolidating DNS, DHCP and IPAM into a single platform, deployed on-site and managed from a common console. Now an industry standard, it has delivered value to San Marino USD right up to the present day. "ROI from our initial Infoblox deployment was very fast. We thought we were consolidating a number of servers and services just to maintain DHCP and DNS at a pretty equal level. But then the added value of overall automation—freeing up IT team members from many hours of manual work—that was something that we did not fully anticipate so quickly. The ROI was quite immediate."

THE RESULTS

Long-standing relationship, long-standing value

Compared with some of the massive enterprise DDI deployments Infoblox carries out, San Marino USD's initial Infoblox implementation was relatively modest, yet the positive benefits still resonate years later. "Moving from spreadsheets to a more visual web-based interface was the biggest leap for us when we first became a customer," relates Choi. "To this day Infoblox continues to provide extreme value when we are able to visually see, from a high level, our IP address usage and how we organize our IPs and our organization."

Choi's colleague, Quoc Hoang, network analyst for the school district, echoes those sentiments: "We love Infoblox just because of the ease of use—the interface, the updates, backups and restoration. Knowing that Infoblox delivers rock-solid performance and is so easy to use is what led us back and informed our decision to keep working with Infoblox when it became time to replace and upgrade the hardware components of the solution."

In 2020, the school district's original Trinzic appliances were reaching end of life and needed to be replaced. Choi, Hoang and their team considered their options for going with an alternative DDI solution, but chose to remain with Infoblox, opting to replace their original Trinzic machines with new Trinzic 825 and 805 hardware. "With the aging appliances, we took the opportunity to evaluate a number of DDI solutions," explains Choi. "Ultimately, though, we made the decision to continue with Infoblox because it's been a very reliable service for us. That, and we also feel that it is very important for us to be able to have reliable partners that share a vision and mission of having a very solid and reliable infrastructure."

Hoang continues: "Now, post implementation the second time around, we are very satisfied not just with the hardware and the software, but the customer service and the implementation services as well. Going back to the term rock-solid: it's not just a term that we threw out there. When we were evaluating other DDI solutions, it was with years of direct experience—over and over again—that Infoblox is a rock-solid solution. So, we were looking forward to not just rock-solid hardware and software, we were looking for a solid relationship as well, and we had that in place already. So overall we are a very satisfied customer. We have learned a lot through our journey with Infoblox."

The San Marino USD team sees its Infoblox solution as a foundational piece of its ongoing digital transformation efforts. Choi characterizes that process in this way: "From our organizational perspective, digital transformation is more of an evolution; it's just continually moving forward and has been for some time now. And then, with the onset of the pandemic, which we are still very much dealing with, learning had to go digital and remote overnight. That required the deployment of hundreds of new devices virtually overnight, which would have been a huge headache if we did not have Infoblox. Going forward with the new devices in place, we see our relationship with Infoblox as a true partnership."



Infoblox unites networking and security to deliver unmatched performance and protection. Trusted by Fortune 100 companies and emerging innovators, we provide real-time visibility and control over who and what connects to your network, so your organization runs faster and stops threats earlier.

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