



Case Study

Forensic Workstations Keep NY Troopers On Cutting Edge

"It's been a year since the initial order and we have had a very good response from the people using the workstations—especially in regard to the increased speed."

Mark Brown, Technical Lieutenant
New York State Troopers Forensic Investigation Center

Digital forensics involves the acquisition, scientific examination, and analysis of data pulled from digital devices such as computers, mobile phones, memory sticks, and even game consoles. The key is that the information needs to be retrieved, documented, and preserved in such a way that it will hold up in court. To do this law enforcement agencies, such as the New York State Troopers, need dedicated forensic workstations.

Their Challenge

The New York State Police Crime Laboratory System (CLS) is widely acknowledged as one of the finest in the world—it is accredited by the American Society of Crime Laboratory Directors - Lab Accreditation Board (ASCLD/LAB). To become accredited, the CLS had to demonstrate that their management, operations, and equipment comply with ASCLG/LAB standards.

Mark Brown is the Technical Lieutenant for the Forensic Investigation Center and satellite crime labs. One of his responsibilities is researching and sourcing technology for the CLS. "The CLS has been continually expanding for quite some time," he said. "I started when most of the digital evidence came from desktops, then it moved to laptops and now it is cell phones and tablets. That makes things significantly more complex as far as retrieving data is concerned. We rely on forensic workstations to do all the data crunching from the information we retrieve from these devices."



New York State Troopers Crime Fighting Assets

Although the CLS was processing evidence using desktops and a few older forensic workstations, it became clear that they needed more capacity. For example, they needed built-in write blockers and built-in RAID arrays that the current equipment didn't have. Mark's goal was to exceed the capabilities of those workstations while controlling expenses.

"There were already 18 HP desktops that we bought 7-8 years ago," he said. "They were getting old and it didn't make a lot of sense to upgrade them. It made more sense to repurpose them and add forensic workstations that were more technologically modern."

The order for these high-end forensic workstations went out to bid. Mark said price was a factor, but he was also looking at the reputation of the bidders, their history with forensic technology, and the quality of the products. He was pleased to see that Ace Computers had been working with government agencies for more than 30 years. "I just couldn't find anything negative on them," he said.

Our Solution

Ace Computers' CEO John Samborski was part of the team that worked with Mark and the rest of the CLS lab personnel. "Knowing exactly what they needed, our aim was to meet and exceed their requirements where possible," he said. "We built high-end forensic workstations with the capabilities that they need now and into the future; recovering, preserving, and analyzing the data from suspects' computers and other digital devices."

All forensic workstations need to demonstrate who has had access to the digital information being used as evidence; there needs to be a clear chain of custody from the scene of the crime, to the investigator, and ultimately to the court. Beyond that, design considerations include:

- The required processing speed and the number of processors, processor cores, and amount of memory anticipated for processing: Systems are available with 1-4 processors and up to 1TB of RAM in towers and up to 3TB of RAM or more in rack mount workstations. The number of processors and cores per processor should be determined by the system requirements of the software they will run.
- The type of media the system needs to *acquire data from* and the appropriate type of write-protected data acquisition methods
- The configuration of the RAID system or the allowance of destination drive bays
- Graphical processing units (GPUs)--do they need to be included? Users can leverage the intense processing power of GPUs to facilitate the most complex password cracking situations.

"Forensic workstations are complicated machines," John said. "Everything has to be optimally configured into one massive tower. It requires a lot of equipment and significant integration expertise. We ended up incorporating technology that would allow the New York State Troopers to scale up as necessary; such as dual Intel Xeon processors and a significant amount of memory."

Their Success

It has now been over a year since the original order. According to both John and Mark, everything has performed up to and beyond expectations. "We have had very good response from the people that are using them," Mark said. "They like the increased speed and features such as the built-in array. We had some very minor issues in the beginning, but Ace Computers was very responsive"

He added, "I would definitely recommend Ace Computers to other agencies and individuals. You get a lot of machine for the money—there was no skimping on quality or customer service. The next time we need forensic workstations, I plan to contact Ace."

About the Client

Since 1917, the New York State Police have been working to prevent and investigate crime. The State Police Crime Laboratory System (CLS) is committed to accurately applying scientifically accepted principles and protocols to the best evidence in a timely manner. The CLS is externally accredited by the American Society of Crime Laboratory Directors - Lab Accreditation Board (ASCLD/LAB). The CLS is one of the top publicly funded laboratories in the nation.

About Ace Computers

Leading custom computer builder and HPC specialist, Ace Computers currently holds the following contracts: SEWP V, GSA, NITCP, DOS (Department of State), WSIPC, PEPPM, State of Wis., State of Ga. The company is a Woman-Owned Small Business custom technology systems manufacturer and reseller for the public sector as well as the commercial sector. Channel partners include Intel, Supermicro, NVIDIA, Mellanox and Samsung among others. It has been an industry leader since 1983. In addition to some of the finest academic institutions in the U.S., long-term clients include the U.S. Department of Energy and the U.S. Department of Defense. In addition to their Greater Chicago headquarters, Ace Computers has locations in New Jersey, Pennsylvania, Arizona, and Virginia. To contact Ace Computers, call 1-877-223-2667 or 1-847-952-6900 or visit <http://www.acecomputers.com/TopProducts.asp>.