

## CASE STUDY

# Portland Police Bureau

How Portland Police made collaboration fast and easy for its investigative team to retrace the homicide by 'How to Murder your Husband' author



On Magnet AXIOM, you can work collaboratively. It speeds up the overall process and you get a much more in-depth and accurate view of what is happening and what is important in the data set.”

— Aaron Sparling, Former Portland Police Bureau Officer

## The Challenge

### Uncovering patterns through cooperation

Solving the murder of Daniel Brophy needed teamwork.

When the Portland Police Bureau arrested Nancy Crampton Brophy, an author who once published an essay titled “How to Murder your Husband,” and charged her with that very crime, examiners, detectives, and prosecutors turned to digital evidence – specifically internet browsing history – to look for the ‘smoking gun.’

“When you’re dealing with internet artifacts, unless it’s downloads you’re looking for, it’s more like a pattern of life: What is the user doing in that browser that shows a particular behavior that is relevant to the crime being investigated?” Former Portland Police Bureau Officer Aaron Sparling said.

Uncovering those patterns demands close, ongoing collaboration among examiners and detectives, a challenging task with systems that require extensive training and compartmentalize investigative teams and knowledge.

### About Portland Police Bureau

Serves close to 700,000 citizens over 140 square miles. Employs 800 sworn law enforcement officers, 300 professionals staff, 35 cadets.

#### CHALLENGES

- Examiners need context from investigators to uncover suspect patterns
- Investigators must spend time connecting clues, not learning complicated DFIR systems
- All stakeholders rely on combined knowledge and skills to seek justice

#### SOLUTION

Magnet AXIOM enables Portland Police Bureau to:

- Easily review and bookmark evidence with an investigator-friendly interface
- Quickly gather context for deep digital forensics
- Use time productively in areas of expertise

#### RESULTS

- Accelerated process to obtain in-depth, accurate view of data set
- Tracked steps of homicide suspect and her behaviors based on internet history
- Built a strong case for prosecution based on collaborative investigation



[The investigators] know the value of the data. They've done all the interviews and secondary interviews. They have a bigger picture of what the case is," Sparling said. "I might see something that looks interesting and has nothing to do with the case at all and skip over things that have to do with the case because they don't seem to grab my attention when I don't have the context."



# How Magnet AXIOM helps

## Easily finding and sharing data

Among its tools, the Portland Police Bureau uses the digital investigation platform Magnet AXIOM to recover and analyze digital evidence from computers, phones, and other devices.

“ One of the things that makes AXIOM unique is it has a collaborative ethos to it,” Sparling said. “It makes it easier for the forensic examiner and the investigator to work collaboratively on the case.”

For the Crampton Brophy case, police had recovered a Glock 17 9mm from the suspect’s home — the same gun investigators believed was used to kill her husband — but it didn’t match the ballistics of the murder weapon.

The investigators and the prosecutor on the case shared a theory. They alleged Crampton Brophy swapped out the slide and barrel of her Glock 17 with a different set to murder her husband and then reinstalled the originals to conceal her crime.



## Working as a team

Sparling was tasked with analyzing Crampton Brophy's laptops to see if the digital evidence would confirm or dismiss this theory.

First, like every digital investigation at the Portland Police Bureau, detectives were directly involved.

Investigators prioritized the devices they needed analyzed and provided keywords to guide the evidence search in AXIOM. Once processing was completed, they bookmarked any evidence for which they wanted more information.

"The interface is very investigator friendly and, with very little tutelage on my part, they can search through the dataset and find what is important to the investigation," Sparling said.

"Even the detectives that have no forensic knowledge — it doesn't matter. They can still access the data, bookmark the data, and tag those things that have value to the case and then the analyst can come back afterwards and do the forensics on it."

He noted a couple of Crampton Brophy's actions were of particular interest to the investigators: the purchasing of a complete Glock 19 kit and the purchasing of a slide and barrel for the handgun.



On Magnet AXIOM, you can work collaboratively. It speeds up the overall process and you get a much more in-depth and accurate view of what is happening and what is important in the data set," Sparling said.

## Retracing steps

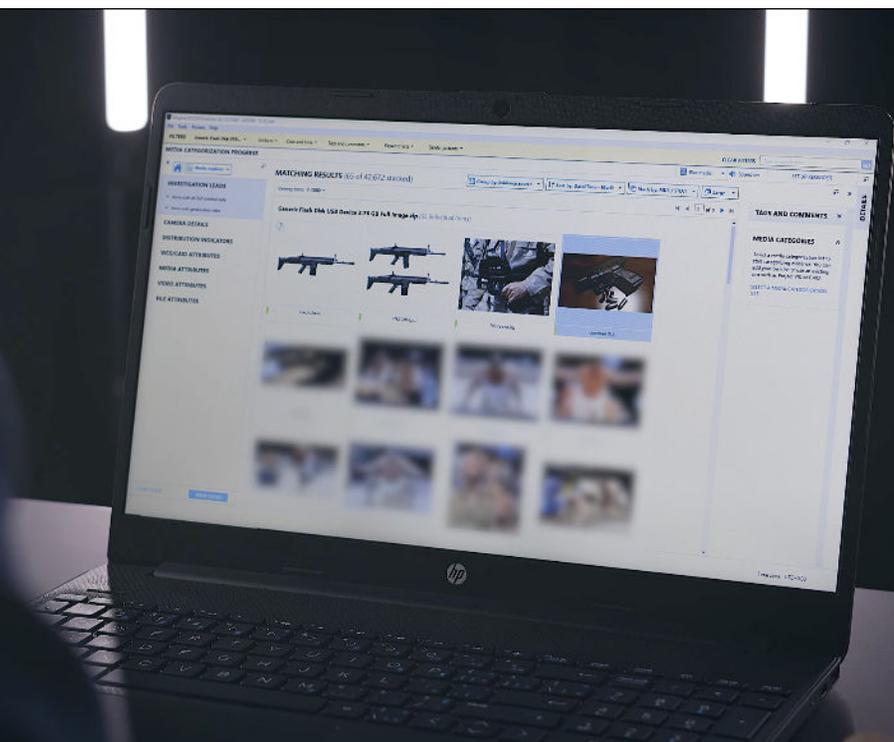
Sparling used the keywords “handgun” “gun” “glock” and “murder” to search for evidence on three laptops belonging to Crampton Brophy, retracing her steps with her browsing history and following her activity as she bought a ghost gun kit, researched the gun police recovered from her home, and – most importantly – purchased a separate slide and barrel on eBay.

Sparling also found evidence that Crampton Brophy later searched online for videos about “cleaning a glock17” and “loading a 9mm glock.”

Just under three months after Crampton Brophy watched videos detailing how to disassemble, clean, and assemble a Glock 17, Daniel Brophy was murdered with what investigators determined was a Glock 17 9mm.

“What made this case unique to me is that everything, for the most part, is all Internet-based. It’s all search history,” said Sparling. “A lot of cases nowadays are built on peoples’ communications, their location histories or photographs. That’s how a lot of cases are solved in law enforcement. This case wasn’t built around photographs and text messages, it was built [entirely] around Internet evidence.”

“ I can’t recall a single case in my tenure that was built [entirely] off of Internet related artifacts.”



## Securing a conviction

In cross-examination, Crampton Brophy admitted that she took apart the Glock 17 recovered by police and reassembled it. She also admitted she bought an extra slide and barrel for the gun.

While Crampton Brophy's Glock 17 and ghost gun kit were recovered by police, the additional slide and barrel she bought never were.

Along with his work on Crampton Brophy's computer, Sparling's colleagues recovered and analyzed video surveillance footage that showed her car arriving at the scene of the crime, parking minutes before she murdered her husband, and then leaving. Location data recovered from Crampton Brophy's cellphone confirmed she was in the area at the time of the murder.

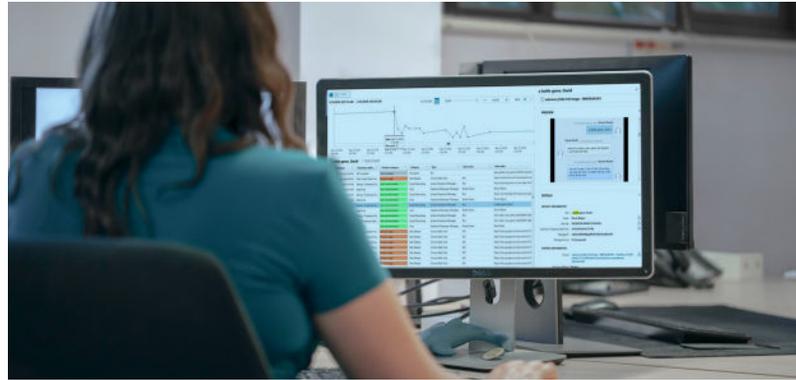
Crampton Brophy was convicted for her husband's murder and sentenced to life in prison.

The case is a prime example of just how important digital evidence is to modern investigations and prosecutions, Sparling said.



### Aaron Sparling

Aaron Sparling, Former Portland Police Bureau Officer



If digital forensics wasn't available, you would've had a much more difficult time with this case," he noted. "If you take the work we did along with the cell phone tower data and surveillance video collection, that's three different types of digital evidence that played significant roles in the case

Need fast and easy collaboration for your investigative team?  
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