

BROMIUM HELPS PROTECT MOFFITT CANCER CENTER'S COMPUTER NETWORKS

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H. Lee Moffitt Cancer Center & Research Institute is a nonprofit cancer research and treatment facility located in Tampa, Florida. Moffitt is one of the only 49 National Cancer Institute-designated comprehensive cancer centers and is ranked No. 9 cancer hospital in the nation. Since 1999, Moffitt has been listed in the U.S. News & World Report as one of the best hospitals for cancer care.



Research excellence and outstanding patient care are not the only things that Moffitt Cancer Center has been recognized for. In 2017, Moffitt's Chief Information Security Officer Dave Summitt was awarded the Information Security Executive Southeast People's Choice Award, and his department's Security Operations Center (SOC) was nominated as a leading project. Summitt is an industry veteran, who spent 21 years with the Department of Defense before transitioning to the healthcare field. For the past 13 years, he has focused specifically on cybersecurity, working to safeguard hospitals' computer systems against phishing attacks, ransomware, and other threats.

Securing the radiology machines

"In healthcare, one of the most challenging areas to secure is the radiology department. And it's particularly important to find a security solution that doesn't impact performance," says Summitt. "The images need to be very detailed, doctors usually request to see multiple images at once, and they often need this information in real time." The machines that interpret radiology scans and other medical images are regular Windows-based workstations running GE-PACS. They are connected to the network and can be potentially exposed to web-borne malware or threats that hide inside malicious email attachments if or when employees use these machines to check their email or browse the Internet.

Protecting radiology machines against cyber attacks is essential, but when Summitt's team tried introducing anti-virus software, they were notified that it caused substantial degradation in performance. "As the images were coming across, the anti-virus picked them up, scanned them for threats, then presented them to the viewer," explains Summitt. "That really slowed things down." The Moffitt security team needed to find a solution that would shield the machines from threats, known and unknown, while preserving usability and performance.

A new use for Bromium

Summitt recalls first learning about Bromium when he held a CISO position at the University of Alabama Birmingham Healthcare System. "When it was first presented to us, it was kind of a WOW moment. I fell in love with Bromium the first day I saw it!" he says.

Upon moving to Moffitt, Summitt introduced Bromium to his new security organization as a tool to better understand what potential threats may be lurking in their environment.

The team initially began using Bromium to intentionally infect a few select PCs and observe how the threat unfolds and behaves throughout its lifecycle. Bromium's complete kill-chain analysis helps gather all available information about the threat and learn from it to harden Moffitt's cyber defenses.

"And then it dawned on me," continues Summitt. "We already own Bromium, so why don't we try to remove the anti-virus from the radiology machines and protect them with Bromium instead?" The initial trial was successful, and today more than 30 of Moffitt's critical radiology reading machines run Bromium.

"Even when people are using those machines for things not related to radiology, like downloading files from the Internet or checking email, we have a way to protect them," concludes Summitt.

Real savings and tangible performance improvement

Since removing anti-virus from the radiology workstations and replacing it with Bromium, Moffitt has noticed a significant improvement in machine performance. Modern computer

scanning equipment is designed to take pictures of large sections of the patient's body in just seconds. However, with anti-virus slowing down the image reading machines, it wasn't uncommon for Moffitt's radiologists and technicians to wait several minutes for each scan to come up.

It became evident that this delay was a major cost and patient care efficiency factor. Removing the performance lag increases staff productivity, helps doctors make speedier decisions concerning patient care, and increases doctor satisfaction.

Summitt also credits Bromium with streamlining Moffitt's IT security and SOC operations. With Bromium, security operations teams can quickly and efficiently determine the impact of incoming malware and begin remediation efforts before it becomes a larger issue.

Expanding the Bromium footprint

Removing anti-virus represents a real paradigm shift for any organization, especially a large healthcare facility, but Summitt is optimistic that his team will soon be able to break the barrier and protect more endpoints with Bromium. His immediate target is Moffitt's cohort of remote workers who connect to the Center's network through VPN. "There's always the issue of updating the anti-virus software, and then pushing it back to the remote users," he explains. "My next goal is to remove AV from our remote coders' endpoints and replace it with Bromium."

Sharing the experience with other healthcare facilities

Most of today's medical facilities use machines that read radiology images, and they are likely to experience the same issues that Moffitt came across – these devices can't be left unprotected, but anti-virus causes performance problems, which is unacceptable, especially when scans need to be read quickly to make swift decisions about patient care. Summitt is planning to share his team's experience using Bromium for radiology machines with other hospitals to help them build security approaches that keep their critical technology running at optimal capacity.

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