Embedded Security Strengthens Confidence in Medical Testing Equipment

Security Industry Leadership

Sysmex Corporation

Customer Profile
Leading manufacturer of medical laboratory testing equipment

Industry
Life sciences

Sysmex Corporation manufactures laboratory equipment for use in medical tests that are an essential part of diagnosing and treating diseases. Having developed Japan's first automated blood cell counter in 1963, the company has since expanded its operations across a wide range of areas, from hematology (blood count testing) to life sciences. With a stated mission of "shaping the advancement of healthcare," Sysmex works to reduce the burden on medical professionals and improve the quality of life for all people. Sysmex is based in Kobe, Japan with operations all over the world.

Business Challenge: Strengthen Testing Equipment Security

As healthcare environments have become increasingly networked, data security is a growing concern for protecting patient privacy and confidentiality. Often, data from different laboratory testing devices is sent over the network to a server, where physicians can access the aggregated results and make an informed diagnosis. Although medical devices in most hospitals are linked via closed networks, there is still the risk of malware being introduced via an infected USB drive or other external memory device.

These security threats can have a serious impact—and not just from leakage of confidential patient information, the resulting noncompliance, or the loss of a license. In the clinical environment, malware can have an even greater consequence. A virus introduced from the network could make testing equipment malfunction, generate inaccurate test results, and cause doctors to misdiagnose conditions.

This could lead to patients receiving the wrong treatment and, in some cases, could put their lives at risk.

With Microsoft Windows Embedded becoming more common as the operating system driving medical testing equipment, Sysmex needed to offer an effective antivirus solution to its customers. The company explored numerous antivirus software solutions, but they typically require more processing power than an embedded device provides. In addition, Sysmex needed an embedded solution that would not have to rely on regular virus definition updates. Typical antivirus software based on the "blacklist" method, which scans files and communications against virus definitions, is not practical for equipment that must be delivered and used in the same state in which it was originally tested at the factory.

Embedded Security with Whitelisting

Sysmex discovered McAfee® Embedded Control— an antivirus solution specifically designed to secure embedded systems. Unlike blacklisting solutions, which define items that should be blocked, McAfee Embedded Control's whitelisting approach defines items that should be permitted and blocks every other application from running. "McAfee Embedded Control has precisely the functionality we were looking for. Its whitelisting approach gives our customers complete protection against viruses without the need to update definition files or run scans," said Shoichiro Asada, chief engineer at Sysmex.

Challenges

- Find an antivirus solution that can ensure security of testing devices in a networked setting.

McAfee Solution

- McAfee Embedded Control

Results

- Whitelist approach provides ideal solution for closed lab testing devices.
- Market leadership based on ability to provide industry's most secure solutions.

Securing Industry Leadership

McAfee Embedded Control is now included as a standard feature of every Sysmex hematology testing device. As a result, the rest of the industry is following Sysmex's lead. With its testing equipment installed at healthcare facilities all over the world, Sysmex has complete confidence in the superior quality of its products and has begun to overtake its overseas competitors.

"A desire to help people stay healthy is the common theme behind the development of our testing solutions, and it's why Sysmex is committed to the quality of every product," said Asada. "Security is now a built-in component of our quality strategy, and McAfee Embedded Control has helped to propel our company forward."

"The increased use of Windows with testing equipment may have improved convenience, but it has also brought with it security threats. McAfee Embedded Control was just what we needed to protect patients' personal information and provide doctors with accurate data."

—Shoichiro Asada, Chief Engineer

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