Adventium Labs begins sales of innovative high security software for virtualized servers

14 November 2017, Minneapolis, MN – Adventium Labs announced today that it has begun sales of Magrana® Server, innovative software for securely operating virtualized servers. The Magrana® Server concept started under the Small Business Innovation Research (SBIR) program funded by the Air Force Research Lab Information Directorate (AFRL/RI) in Rome, NY. The technology was matured over the course of a multi-year, multi-million dollar Advanced Technology Demonstration (ATD) program under the technical leadership of Ms. Juanita Riley, an AFRL computer scientist.   The ATD program included beta testing by half dozen organizations within and supporting the Department of Defense.

Magrana® Server provides strong isolation to meet strict separation requirements with virtualized servers. Virtualized servers are ubiquitous in business computing environments. Most server virtualization software, however, shares services, like storage and network drivers, across all of the virtual computers (known as virtual machines (VM)) running on the server. These shared resources can become a route into other VMs running on the physical server. That's why today, to ensure strict separation, the government requires that information at different security levels be kept on different physical servers, adding hardware and energy costs. In the commercial world, complex business networks rely on a jumble of firewalls and other security measures to enforce the separation – introducing weak points to be exploited by hackers.

Magrana® Server securely separates information at different security levels on a shared physical computer. Magrana® Server extends the open source XenServer by moving shared virtualized services into separate VMs for each security enclave, continuously monitoring critical internal data structures within the hypervisor after boot, enforcing least privilege for each VM using Xen Security Module (XSM) policy, strictly defining privileges and administration scope using role-based access control, and encrypting data-in-transit and data-at-rest using cryptographic keys for each security enclave.

In addition, Magrana® Server addresses another issue in current virtualized systems which are susceptible to malware neutralizing or circumventing defenses running on the virtual machines. Magrana® Server includes patented agentless introspection that looks inside each monitored VM from a separate introspection VM. Because the approach uses no agent or software on the monitored VM, malware cannot tell that it is being monitored, and therefore, cannot avoid the defenses. Magrana introspection supports monitored VMs that run Windows and Linux operating systems.

Magrana® Server can be used in government applications and a range of commercial markets such as healthcare, banking and finance, and legal services that need strict separation between different kinds of data and applications. For example, in the healthcare markets, HIPAA-protected information is required to be separated from non-HIPAA information with controls in place to enforce that separation. By using Magrana® Server, the HIPAA and non-HIPAA information processing can be implemented on shared physical servers.

The first sale of the software licenses is to one of the beta test participants for a development program in the Department of Defense.

"I think this is the tip of the iceberg", said Kyle Nelson, CEO of Adventium Labs, "there are many applications where server space is at a premium and cost is always an issue. Magrana has the potential

to be transformative technology, saving over 40% in license costs for a one-for-one replacement of the leading commercial offering and magnifying that when one Magrana® Server license supports multiple security enclaves, replacing hardware and software costs and providing significant SWaP (size, weight, and power) benefits."

Now that sales have begun, Mr. Nelson said that he is seeking partnerships with firms supporting existing Department of Defense programs to accelerate adoption of the Magrana® Server technology as quickly as possible.

"We have a terrific team, solid software, several issued patents, and exclusive commercialization rights with the Government. Adding strategic licensing partners will help us to realize this transformation more quickly." he said.

About Adventium Labs: Adventium Labs is an award-winning, research and development company that blends automated reasoning, systems engineering, and cyber security to solve challenges of national importance. Learn more about Magrana Server at www.magrana-server.com.

About AFRL/RI: Located in Rome, NY, AFRL/RI develops novel and affordable Command, Control, Communications, Computing, Cyber, and Intelligence (C4I) technologies. RI is recognized as a national asset and leader in C4I. AFRL/RI refines data into information and knowledge for decision makers to command and control forces. This knowledge provides the U.S. Air Force air, space, and cyberspace forces the competitive advantage needed to protect and defend the nation.

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