LYNX
SOFTWARE TECHNOLOGIES

LSA Network Guard & LSA Disk Guard

Certifiable Guards for Secure Computing
LSA-based Network and Disk Guards for LynxSecure Separation Kernel

LynxSecure Separation Kernel

Built from the ground-up to provide the highest levels of security, LynxSecure is a Separation Kernel Hypervisor that gives the ability to concurrently run real-time and general purpose operating systems and bare metal environments on a single computing platform. With features not found in traditional RTOS and Microkernel based hypervisor solution, LynxSecure is uniquely engineered to raise the assurance of secure systems. The LynxSecure Separation Kernel Hypervisor strictly enforces isolation of CPU cores, memory, and narrowly defined I/O interfaces by utilizing hardware virtualization.

Lynx Simple Application (LSA) framework

A Lynx Simple Application allows wholly-independent, secure, and sensitive applications to directly execute on the LynxSecure Separation Kernel Hypervisor removing the need for an operating system environment. It allows 32-bit or 64-bit applications to run directly on LynxSecure in an independent partition, isolated from other guest operating systems. LSAs can operate independently or in cooperation with other Guest operating systems to isolate security-critical or safety-critical functions. They are also utilized to impose security policies on a Guest operating system function in a non-bypassable and tamper-proof manner.

LSA Network Guard

The LSA Network Guard runs directly on LynxSecure Separation Kernel Hypervisor, and imposes security policies on network traffic. The network guard application executes as an LSA application to capture network traffic from every guest operating system before it is transmitted externally. The LSA Network Guard allows the enforcement of security policies like filtering, encryption or labeling.

LSA Disk Guard

The LSA Disk Guard runs directly on LynxSecure Separation Kernel Hypervisor, and imposes security policies for all disk access. The Disk Guard executes as an LSA application, to capture disk reads or writes from any guest operating system before it is written to media, and allows the enforcement of security policies like filtering, encryption or labeling.

Assurance

The LSA Network guard and LSA disk guards are available as source code with accompanying assurance case in the form of semi-formal artifacts. These semi-formal artifacts could be the basis for a Common Criteria evaluation at EAL5 or equivalent.