LYNX
SOFTWARE TECHNOLOGIES

LynxSecure Multi-display

Picture-in-Picture display of multiple guest operating systems

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.

Multi-OS execution Environment

LynxSecure allows multiple guest operating systems to execute on the same platform. LynxSecure's multi-OS execution environment allows for dedicated or shared devices such as graphics, network, disk and USB. Each OS environment exclusively receives a virtualized instance of these physical devices in order to utilize them independently from the other operating systems.

Picture-in-Picture (PiP display)

The Picture-in-Picture display mechanism allows multi-OS environments to be displayed on a single graphical screen through isolated windows.

There are two components to the PiP display, the PiP manager & the PiP client. The PiP manager is located within the OS environment which hosts the graphical display and controls the graphics card. The PiP client windows connect to individual Guest OS environments to allow interaction with that specific Guest OS environment.

Seamless User Interface

The PiP manager allows for keyboard and mouse focus to be switched from one PiP client to another, thereby enabling the user to seamlessly transition between different OS environments.

Isolation of PiP clients

No data transfer, such as cut-n-paste are allowed between PiP clients, ensuring complete isolation of OS environments. This allows OS of different sensitivities or classification levels to co-exist on a single graphics display without unintended data transfers.

PiP Manager Environments

The PiP manager is supported on Windows and Linux environments. For Windows environments, additional certification from Microsoft is required in order for the Windows PiP driver to be used in production deployments.

Availability

The PiP manager and PiP clients are available as source code.

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