# HighSecLabs
Highest Security Solutions

NEOUS FAMILY OF SECURE MULTI-DOMAIN KVM AND VIDEO MATRIX SOLUTIONS

The Neous family simplifies how multiple users work securely with multiple computer sources of different classification levels. With Neous, an application like a KVM matrix or a video matrix is easily implemented securely using the Neous high-speed, low-latency, and high-performance architecture. The solution uses NIAP certified components, encryption, and Network Access Control (NAC) to protect against data leaks and breaches.
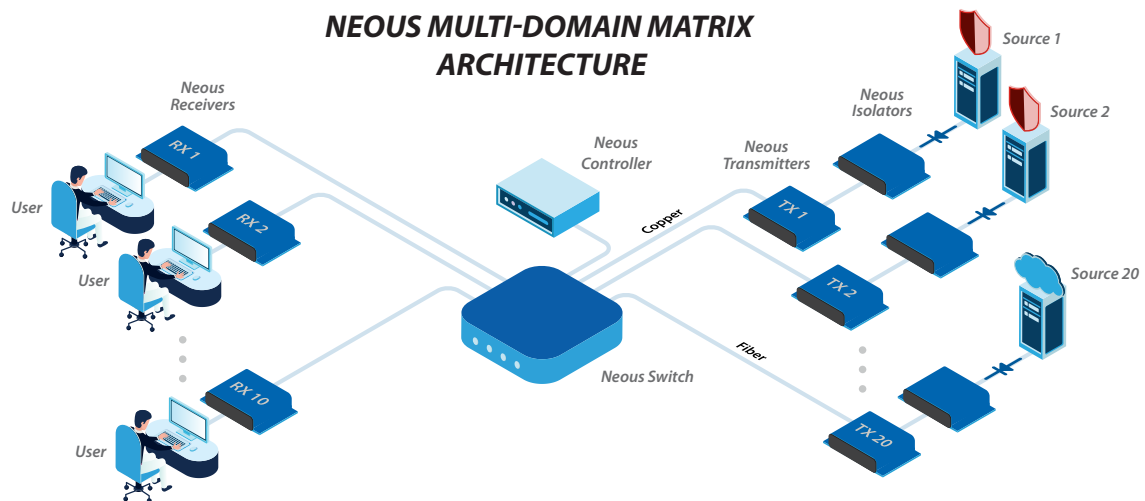
Neous Architecture of a Secure Multi-Domain KVM Matrix Solution

The Neous architecture provides powerful secure applications in a many-to-many, multi-domain environment:

• Video matrix

• KVM matrix
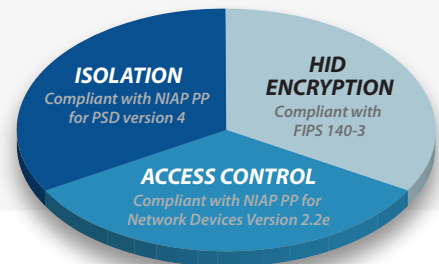
• KVM and Multi-View matrix

The Neous solution is perfect for control rooms, command and control centers, operational centers and other demanding applications where multiple users are interacting with data from many sources.

SECURITY HIGHLIGHTS

- Host and destination isolation using NIAP certified KVM and video isolators create a domain agnostic network for a KVM and video matrix
- Uses pre-certified components and industry standard tools assuring isolation and data leakage immunity
- Isolator auto-detect enforces system use only with isolator
- Encrypted HID traffic prevents man-in-the middle attacks
- Secure EDID pass-through assures unidirectional information flow
- 802.1x NAC prevents unknown connections
- HTTPS encrypted management communication
- MAC address authentication

ISOLATION
Compliant with NIAP PP for PSD version 4

HID ENCRYPTION
Compliant with FIPS 140-3

ACCESS CONTROL
Compliant with NIAP PP for Network Devices Version 2.2e

NEOUS FAMILY BUILDING BLOCKS

Neous Controller

Determines the type of the solution (e.g. KVM matrix or video matrix), performs the mapping of sources to users, along with the user/source permissions. The nature of the solution is software defined.

Neous Transmitter

Transmits video data from the source to the user, and decrypts the HID data from the user to the source. Works over both fiber and copper lines. Depending on the version used, handles either video only, or the complete KVM data. The solution is secured either through an embedded isolator/encryptor in the transmitter or through an adjunct external isolator/encryptor.

Neous Receiver

Receives the video data from source and transmits the keyboard and mouse USB data from the user to the source. Works over both fiber and copper lines. Depending on the version used, handles video only or the complete KVM data. The solution is secured either through an embedded isolator/encryptor in the receiver, or through an adjunct external isolator/encryptor.

Neous Isolator

Certified for NIAP PP4.0 solutions. Imposes a unidirectional data flow of the video from the source to the user and HID from the user to the source. Encrypts/decrypts HID. Available as a core module that is integrated into the Neous Transmitter and Neous Receiver, or as an adjunct external product.
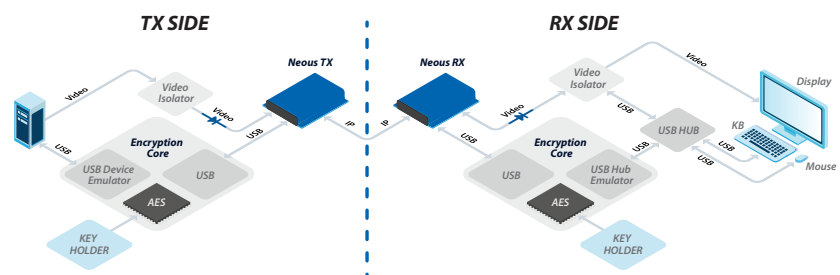
Secure Isolators

Transmitter

Receiver

TX SIDE

RX SIDE

Controller

Neous Isolation and Encryption Core

LIST OF NEOUS PRODUCTS

MODEL	TYPE	FEATURES
SIX10PHT-M	KVM Transmitter with embedded isolator and HID decryption	Full KVM transmitter.
SIX01PHR-M	KVM Receiver with embedded isolator and HID encryption	Full KVM receiver
SKX10PHT-M	KVM Transmitter with external isolator and HID decryption	Full KVM transmitter. Provided as a set including the transmitter and the isolator/decryption
SKX01PHR-M	KVM Receiver with external isolator and HID encryptor.	Full KVM receiver. Provided as a set including the receiver and the isolator/encryptor.
SVX10PHT-M	Video Transmitter with an external isolator	Video transmitter. Provided as a set including the transmitter and the isolator.
SVX01PHR-M	Video Receiver with an external isolator	Video receiver. Provided as a set including the receiver and the isolator.
MCK11EC-M	KVM Controller	Neous controller with a KVM matrix software load
MCV11EC-M	Video Controller	Neous controller with a Video matrix software load

SPECIFICATION

NEOUS PRODUCT FAMILY

NEOUS TRANSMITTER

Video	DP/HDMI 2.0 with HDCP pass-through up to 4K 60Hz 4,4,4
Local Video	HDMI
Audio (Digital)	Encoded audio formats and LPCM up to 8 channels
Audio (Analog)	Unbalanced 2-channel stereo 3.5mm mini jack
IR	Input/Output ports 3.5mm mini jacks
RS-232	Full-duplex up to 115.2 kbps terminal block
USB HID	USB HID Type B
USB 2.0 (Optional)	USB 2.0 USB Type B
Ethernet	10 Gb for Video/Audio/Control RJ45
Ethernet	1 Gb Utility RJ45 port
Fiber (Optional)	SFP+ port

NEOUS RECEIVER

Video	DP/HDMI 2.0 with HDCP pass-through up to 4K 60Hz 4,4,4
Audio (Digital)	Encoded audio formats and LPCM up to 8 channels
Audio (Analog)	Unbalanced 2-channel stereo 3.5mm mini jack
IR	Input/output ports 3.5mm mini jacks
RS-232	Full-duplex up to 115.2 kbps terminal block
USB HID	2 x USB HID USB type A
USB 2.0 (Optional)	USB 2.0 1 x USB type A
Ethernet	10 Gbps for Video/Audio/Control RJ45
Ethernet	1 Gbps Utility RJ45 port
Fiber (Optional)	SFP+ port

ADDITIONAL SECURITY SPECIFICATIONS

Video	Unidirectional isolated video
USB HID	Unidirectional isolated USB HID
Encrypted USB HID	AES 128, ECDH, AES 128 CTR, Poly1305, AES SHA256
Additional	• 802.1X • NAC • SSL

NEOUS PRODUCT FAMILY

NEOUS CONTROLLER

Ethernet	1 Gbps RJ45 port
Video	HDMI
USB	2 x USB A
Security	HTTPS
Functionality	• KVM switching • Video only switching • USB only switching • RS232 switching • Tx/Rx configuration • Permissions management • NAC

Receiver

Transmitter

For more information, please contact info@highseclabs.com or go to www.highseclabs.com