

UNCLASSIFIED

# NEOUS

## Secure KVM & Video Matrix Multi-Domain Solutions

A scalable solution for interacting securely with multiple sources of different classifications, using shared peripherals.

HLT33163 Rev 1.3



 **HighSecLabs**  
Highest Security Solutions ●●●

# WHY NEOUS?

**NEOUS** is a secure matrix solution when network sources are **physically distanced** from users.

**Neous** is *the* solution when sources reside on **multiple networks** of different classification levels.

**Neous** ensures ease of Cross Domain use while **preventing data leaks** between networks.



Typical use cases:

- Command & Control Centers
- Operational Centers
- Critical Infrastructure Monitoring
- Defense Contractors
- Government Agencies
- Air Traffic Control
- Financial Centers
- Healthcare

# NEOUS: SECURE MULTI-DOMAIN KVM/VIDEO MATRIX

## NEOUS: The 1<sup>st</sup> Secure KVM/Video over IP Matrix Solution

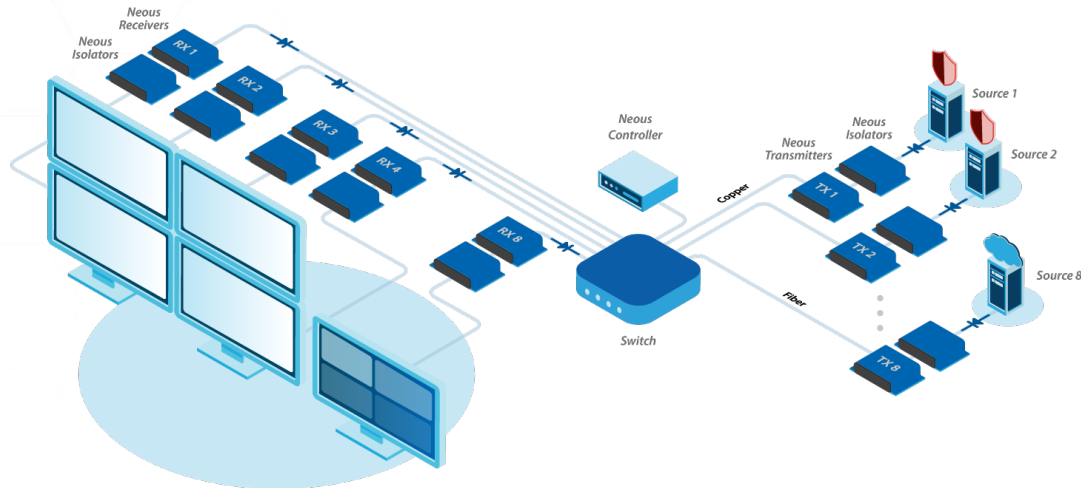
- **AVAILABLE** as KVM and Video matrix
- **FLEXIBLE** for multiple-user, multiple source classification level installations
- **GROWS** as needs evolve. Just add another receiver or transmitter to **increase capacity**.
- **EXTENSIBLE** design for adding features through software upgrades
- **ZERO-LATENCY**
- **NIAP/Common Criteria PP4.0** certified components
- **CROSS-DOMAIN** usage secured through **HW**
- **ENFORCED** use of NIAP certified Isolators



# NEOUS: KVM MATRIX AND VIDEO MATRIX OPTIONS

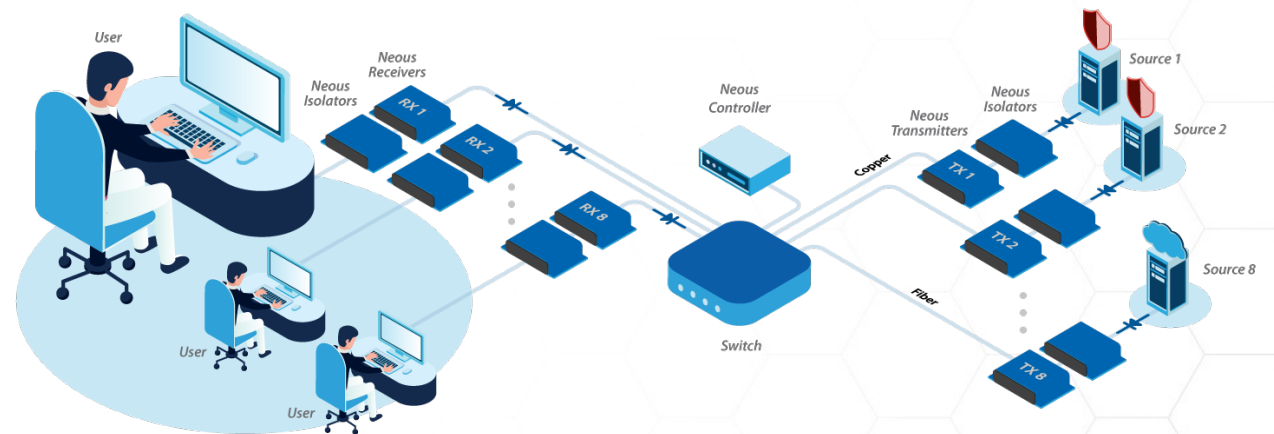
## VIDEO MATRIX

- 4K, zero-latency
- Multiview support



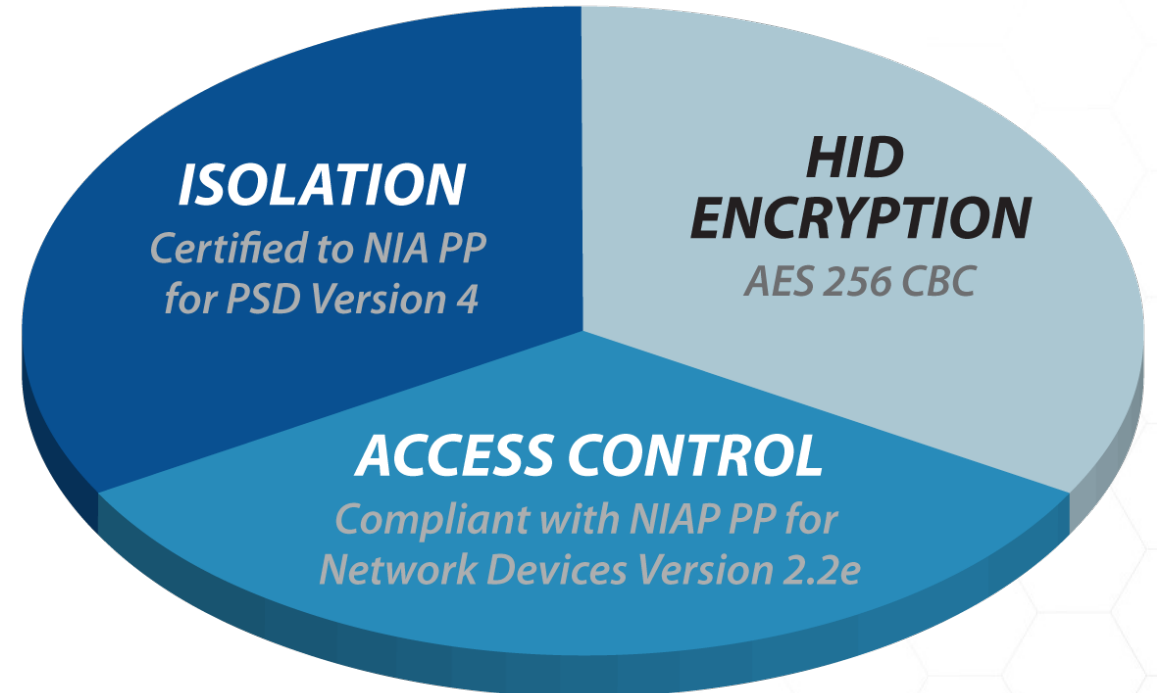
## KVM MATRIX

- 4K, zero-latency
- HID support including AES 256 CBC encryption
- Keyboard channel switching



# KEY SECURITY FEATURES

- Host and destination isolation using **NIAP** compliant KVM and Video isolators create domain agnostic network for KVM & video matrix
- Isolator **auto-detect** enforces system use **only with isolators.**
- **AES 256 CBC** compliant 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



# NEOUS MULTI-DOMAIN MATRIX SOLUTION BUILDING BLOCKS

## TRANSMITTER

- Video encoding. USB HID decoding (KVM matrix). Fiber & copper versions.

## RECEIVER

- Video decoding and Multiview support (Video matrix). HID encoding (KVM matrix). Fiber & copper versions.

## CONTROLLER + SW APPLICATIONS

- Defines KVM & Matrix multi-domain/cross-domain solutions. Implements permissions and NAC.

## KVM/VIDEO ISOLATORS

- NIAP/Common Criteria certified isolators enforce unidirectional data flow. Neous auto-detects the presence of the Isolator and enforces operation ONLY with the Isolators. HID encryption/decryption (KVM matrix).

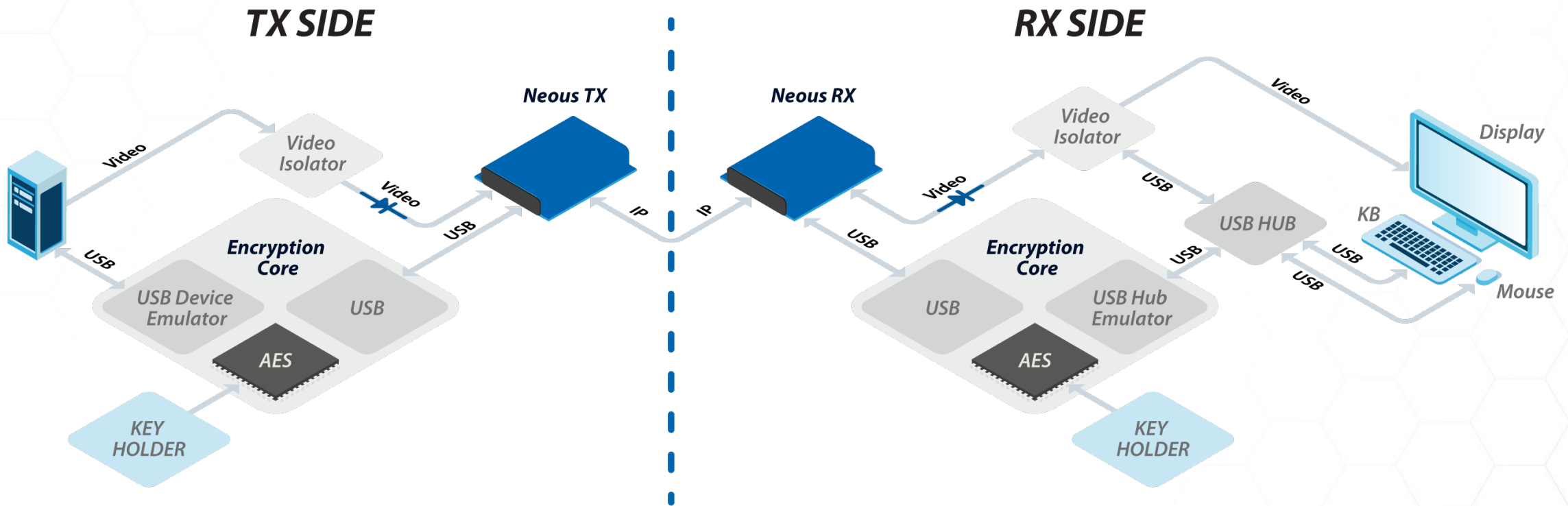


Secure Isolators



Controller

# NEOUS NIAP PP4.0 ISOLATION & ENCRYPTION CORE

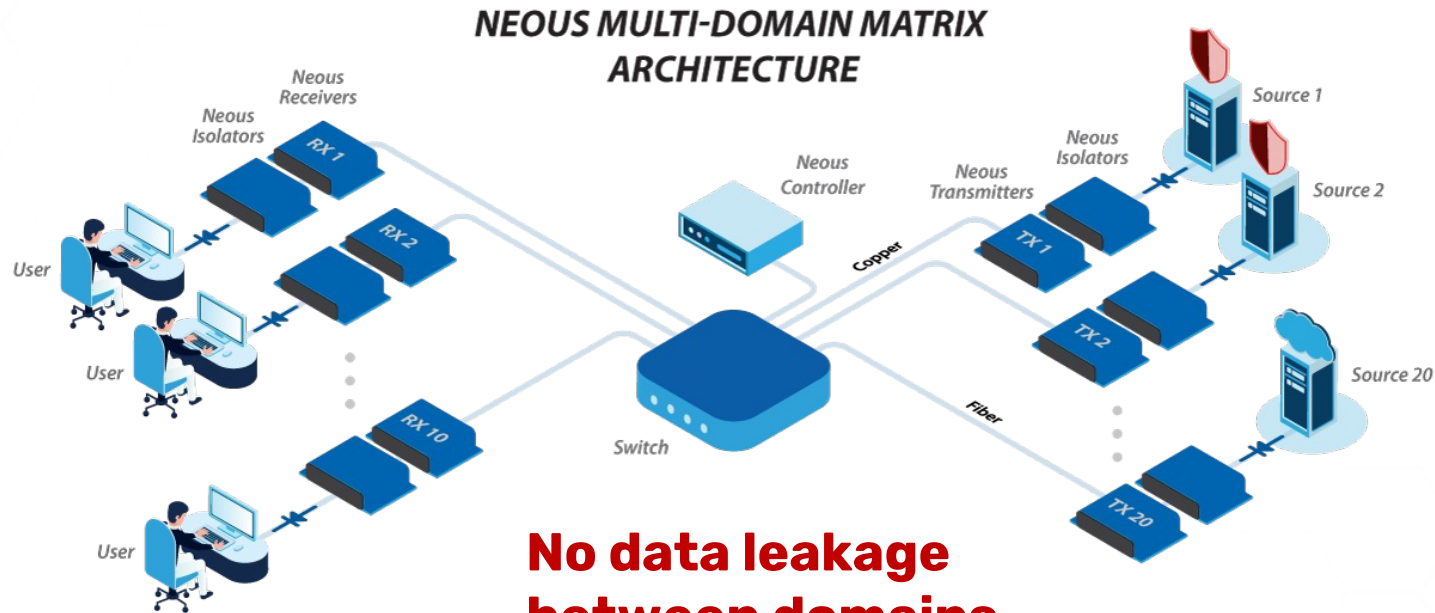


# SECURE MULTI-DOMAIN KVM / VIDEO MATRIX

Neous Controller distributes keys between the Neous elements.

Controller maps users and sources, per permissions

Neous RX decodes video, implements Multiview (Video matrix) and encodes HID USB (KVM matrix)



Auto-sensing removes source when isolator is disconnected.

Multiple sources on multiple domains, including non-secure Internet domain.

Neous **NIAP PP4.0** certified isolators ensure that data does not flow between sources.

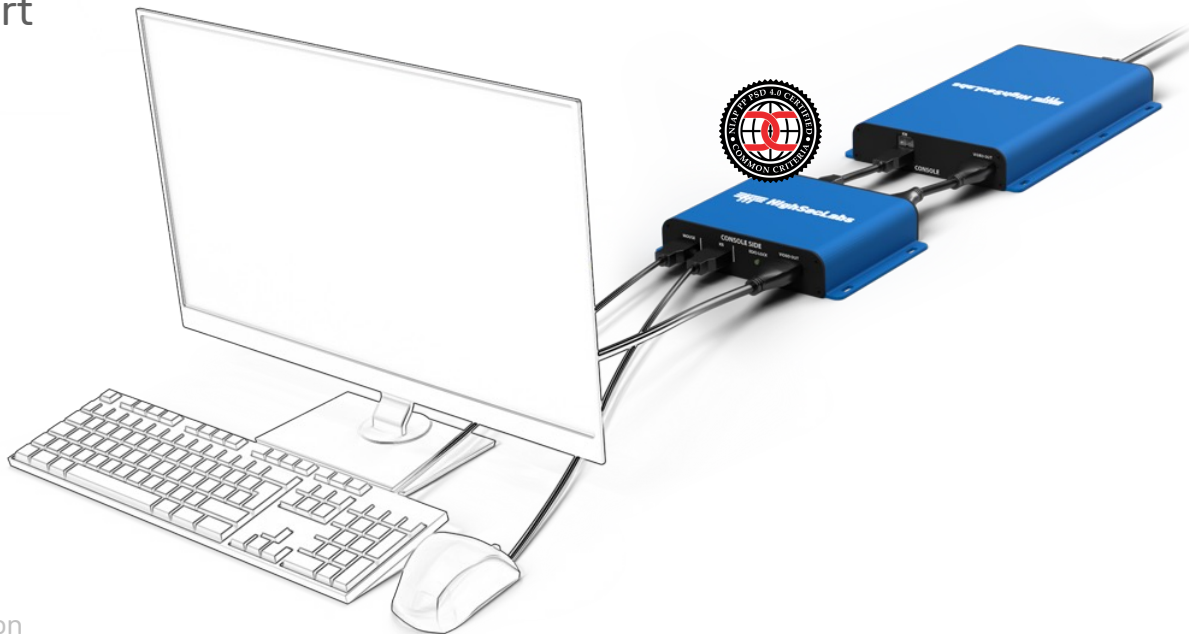
Neous TX encodes video and decodes HID USB (KVM matrix)



# KEY FEATURES – KVM MATRIX

## Transmitter & Receiver Main Features

- DP/HDMI 4K30Hz 4,4,4
- USB HID Type B/A (TX/RX)
- 10Gb Ethernet for video/audio
- SFP+ port for fiber
- Encrypted USB HID: AES 256 CBC
- NAC, 802.1X, SSL



## Controller Features

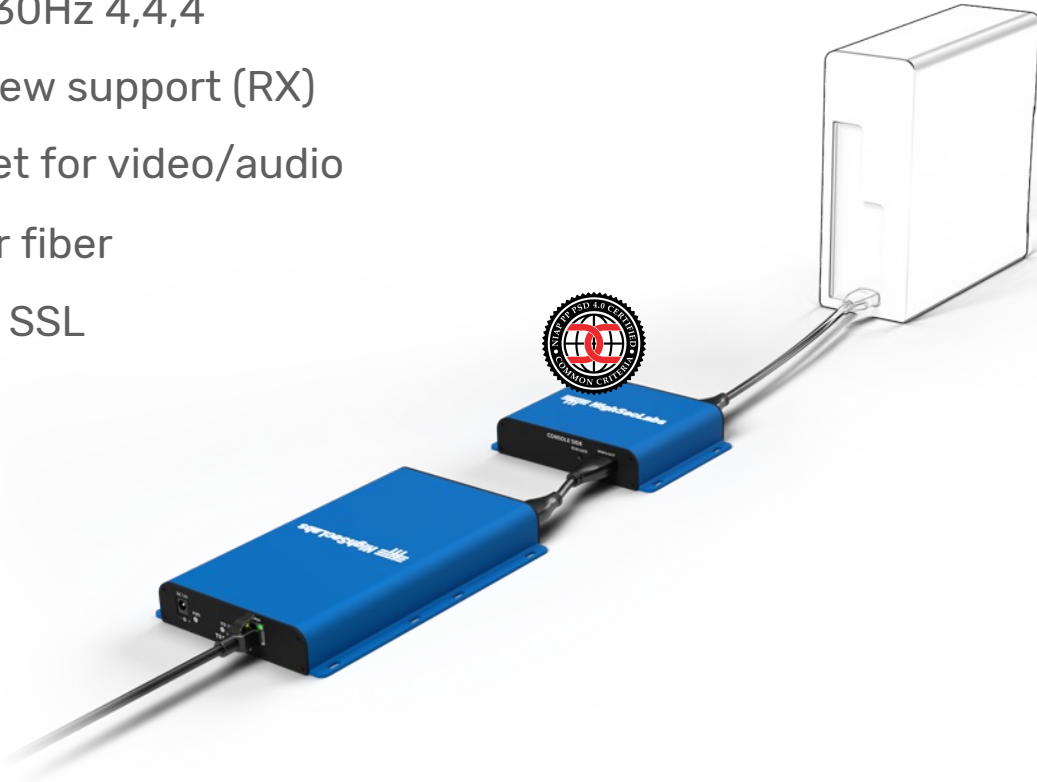
- KVM switching
- TX/RX configuration
- Permissions Management
- NAC



# KEY FEATURES – VIDEO MATRIX

## Transmitter & Receiver Main Features

- DP/HDMI 4K30Hz 4,4,4
- Video Multiview support (RX)
- 10Gb Ethernet for video/audio
- SFP+ port for fiber
- NAC, 802.1X, SSL



## Controller Features

- Video only switching
- Multiview support
- TX/RX configuration
- Permissions Management
- NAC



# NEOUS PRODUCTS

Model	Type	Features
<b>SVFX10PHT-M</b>	Neous Fiber Video Matrix TX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps SFP+; DP/HDMI Combo source port; NIAP certified Isolator.
<b>SVFX01PHR-M</b>	Neous Fiber Video Matrix RX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps SFP+; DP/HDMI Combo console port; Multiview support; NIAP certified Isolator
<b>SVCX10PHT-M</b>	Neous Copper Video Matrix TX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps RJ45; DP/HDMI Combo source port; NIAP certified Isolator
<b>SVCX01PHR-M</b>	Neous Copper Video Matrix RX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps RJ45; DP/HDMI Combo console port; Multiview support; NIAP certified Isolator
<b>SKFX10PHT-M</b>	Neous Fiber KVM Matrix TX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps SFP+; DP/HDMI Combo source port; USB-B HID port; AES 256 CBC HID decryption; NIAP certified Isolator
<b>SKFX01PHR-M</b>	Neous Fiber KVM Matrix RX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps SFP+; DP/HDMI Combo console port; 2x USB-A HID console port; AES 256 CBC HID encryption; NIAP certified Isolator
<b>SKCX10PHT-M</b>	Neous Copper KVM Matrix TX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps RJ45; DP/HDMI Combo source port; USB-B HID port; AES 256 CBC HID decryption; NIAP certified Isolator
<b>SKCX01PHR-M</b>	Neous Copper KVM Matrix RX with Linked Isolator	Video 4K30Hz; Enforced operation with Isolator; 10Gbps RJ45; DP/HDMI Combo console port; 2x USB-A HID console port; AES 256 CBC HID encryption; NIAP certified Isolator
<b>MCV11EC-M</b>	Neous Video Matrix Controller	Up to 50 end points
<b>MCK11EC-M</b>	Neous KVM Matrix Controller	Up to 50 end points

# NEOUS HIGHLIGHTS

- **SECURE** matrix over IP solution
  - Multi-domain / cross-domain solution
  - Secure KVM/Video PP4.0 Isolators
  - Encryption of HID data
- Flexible, scalable, many-to-many solution
- TX/RX over copper & fiber infrastructure
- Upgradeable and customizable software defined architecture
- Zero latency
- Provision only the exact capacity needed today. Grow as required.



*Certified Components*

# Thank You

For more info:



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