Multi-Domain Video Network Switch
MDVNS

Features

Secure
Conforms to the DISA periods processing procedures and satisfies related IA security requirements

Failsafe Process
Eliminates residual settings or data from being transferred from one network to another

Red/Black Separation
Provides true red/black air gap separation and isolated grounds between networks and all system components

Approved Isolation
Utilizes a CCEVS/NIAP validated and DISA approved fiber based switching unit to manage and isolate all video networks

ISDN Capable
Automated Unclassified ISDN management and isolation including support of third party Secure/Non-secure switches

Source Management
Automated control of source management isolation devices

Scalability
Can be configured to operate across numerous video networks

Stand-Alone or API Control
Front panel operation or API integration with AMX, Crestron, and Extron AV room control systems

The Freeport Technologies Multi-Domain Video Network Switch (MDVNS) provides an automated periods processing procedure to safely and securely switch between numerous video networks of varying classification levels using a single video CODEC. The MDVNS is the only secure VTC switching solution that has been approved by the Defense Intelligence Agency for use on the JWICS Top Secret network. It has also been approved for operation by DISA for NIPR, SIPR, NRO, NGA, Coalition Forces, and many other classified networks.

The MDVNS adheres to the DISA approved periods processing procedure (as detailed in the STIG dated January 2015 Version 1, Release 5) when traversing video networks, which is consistent throughout every system configuration regardless of the number of networks or network type being utilized (IP or ISDN). The period processing procedures along with the unique design of the Freeport MDVNS hardware components ensures that security requirements will be met during the switching and operational processes.

Security Risk Mitigation
In an environment where a single video CODEC is used to support multiple video communication networks, security related risks can be minimized. A system design based on a single video CODEC utilizing a multi-domain switching system alleviates a majority of the security requirements involved with the sharing of AV resources (inputs, outputs, control). It also alleviates the high cost associated with purchasing multiple video CODECs, and if implemented correctly, provides an automated set of procedures to traverse those networks thus eliminating manual errors while maximizing data security.

Design Approach
The MDVNS design approach focuses on ensuring physical video network security, video CODEC information security, inter-unit isolation, hardware fail safes and redundant isolation. This approach provides electrical and data isolation between all video networks. Data isolation is achieved through the use of multiple processor and memory units, where each unit is dedicated to a particular network. Data from a particular video network is never stored in more than one place and data from different networks is never intermingled into one processor and memory unit.

Product Specifications

Components and Functions

Freeport SCC5NET Switch

- Enforces and initiates all switching tasks and the order in which they occur
- Validates that all tasks are executed as intended
- Manages room classification signage
- Provides the RS-232 connection path between the video CODEC and all other system components
- Controls the removal and application of power to the video CODEC, Freeport SCC units, and media converters
- Provides dry contact closures for managing source isolation devices
- Manages the fiber optic network switch
- Manages all ISDN related components
- Responsible for enabling/disabling a POTS, VOIP or unclassified ISDN line
- Front panel LCD provides access to system information, network selection, and maintenance
- Manages and isolates the connection of an external room control system to the video CODEC

Freeport Secure CODEC Configurator (SCC)

- Used to capture, clean and restore the configuration settings of the video CODEC for a specific video network or domain
- Provides data isolation of video CODEC configuration settings between all video networks
- Capable of capturing and restoring all video CODEC configuration settings provided by the manufacturer
- Capable of restoring video CODEC passwords
- Firmware management provides the ability to support various video CODEC makes/models

Fiber Optic A/B/C Switch

- NIAP validated and DISA approved switch manages and isolates all IP video network connections
- Only hardware component in the MDVNS system that physically connects to a customer's network(s)

Fiber Optic Media Converters

- Enables/Disables the network connection between the Fiber Optic Network Switch and the video CODEC
- Provides second layer of isolation between the customer's IP video network connections and the Fiber Optic Network Switch

Room Signage

- Provides the ability to display *Joining*, *Leaving*, and *Network Classification* messages for classification awareness
- Provides switching process feedback such as *Preparing System*, *System Off*, and *Error*

Physical Characteristics

- *Freeport SCC5NET Switch* – 1 RU
- *Freeport SCC Unit* – .25 RU each
- *3 Network Fiber Optic Switch* – 1 RU
- *CODEC Fiber Optic Media Converter* – .25 RU
- *Network Fiber Optic Media Converter* – .25 RU each

Electrical

- *Freeport SCC5NET Switch* – 63W
- *Freeport SCC Unit* – Powered by *SCC5Net Switch*
- *3 Network Fiber Optic Switch* – 60W
- *CODEC Fiber Optic Media Converter* – 60W
- *Network Fiber Optic Media Converter – 60W*

Environmental

- *Heat Dissipation* – 1033.88 BTU/hr Max (2 Network IP Only)
- *Operating Temperature* – 32° to 104°F (0° to 40°C)
- *Storage Temperature* – 0° to 122°F (-18° to 50°C)
- *Humidity* – 10% to 90% RH (non-condensing)
- *Made in the U.S.A*

Warranty and Support

Service and support agreements provide technical telephone support, onsite troubleshooting, and software updates as needed.