

SECURA Command Center

IP Configuration and Control
AES-256 Encryption
Multiple Formats & Levels
One System



The PESA Secura family of secure video distribution products, designed with security in mind, rely on the power and flexibility of Secura Command Center for configuration, control and management of the Secura workflow from source to glass. PESA's A/V and KVM over IP solutions encompass multiple video, audio and control formats across multiple levels of authorization and access, with the Secura Command Center managing it all, seamlessly, within one system and simplifying the workflow and maintenance of the solution. Secura Command Center utilizes Arista enterprise COTS (Commercial Off-The-Shelf) network switches for network scalability, reliability and security. The PESA Secura A/V and KVM over IP distribution system and endpoints or nodes uses fixed-key AES-256 encryption to ensure that only the intended recipients can decrypt and access the media. With Security being our primary objective, it is no wonder why more military, government and corporations choose PESA for critical command and control (C2) environments.

SYSTEM ARCHITECTURE

Secura Command Center defines, configures and manages all audio, video and USB signals as well as their inherent security domains within one system, even as it scales. Common Access Card (CAC) authorization can be extended to CAC readers at locations where users needed to authenticate while secure PC or Thin Client assets remain in physically protected areas.

This Secura video, audio and KVM over IP distribution system can scale to thousands of endpoints utilizing the agile IP network fabric from Arista. Combining PESA Secura software with Arista network switching provides a robust IP architecture to deliver critical media signals when and where they are needed the most. The PESA Secura system was designed for demanding security requirements in order to protect sensitive assets from security breaches, insider threats and unauthorized use. Each source and destination can be assigned a security level with fixed keys, along with transmit and receive endpoints according to their authorization assignment.

Typically housed in a secure and protected rack room environment, access to the physical device(s) is limited to authorized personnel and senior administration. The Secura Command Center is comprised of IP network services that include NMOS (Networked Media Open Specifications) registration and discovery, virtual matrix, and touch panel service combined with the legendary Catrax / CatraxIP configuration tools. Collectively they manage and control the KVM or A/V over IP transmitters, receivers and HID/CAC USB devices. Combined with a properly architected ethernet network the process is simple and extremely flexible.

SECURA ETHERNET FLEXIBILITY

The Secura Command Center can connect A/V flows as:

- a. 1 Gb/s Ethernet copper using RJ-45
- b. 10 Gb/s Ethernet fiber using SFP+

With the agility of IP and Ethernet, system can elastically scale from small systems requiring a few ports to full enterprise systems with hundreds of IP endpoints. The ability to scale without having to completely redesign or rip out a dedicated silicon matrix as formats or requirements change is what helps make Secura a standout solution.

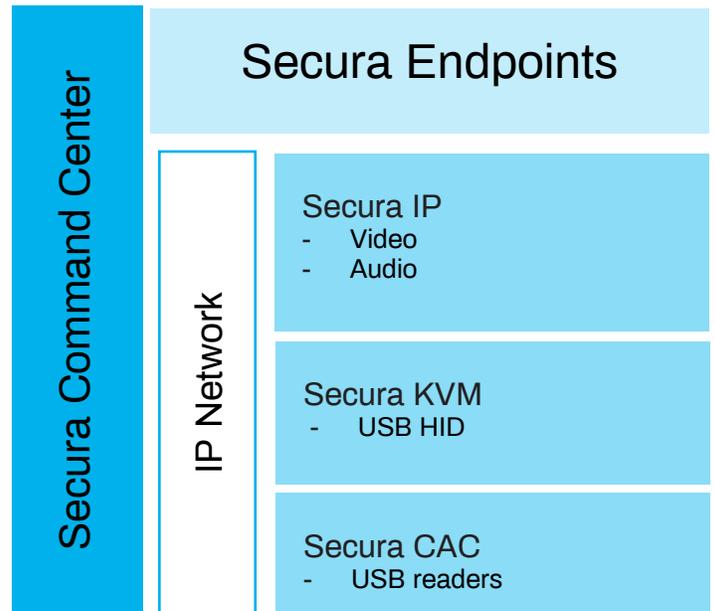


Fig1: Secura System High Level Diagram



SECURA IP TRANSMITTERS

PESA Secura A/V over IP transmitter endpoints or nodes convert HDMI 2.0 (or lower) audio and video sources, with formats up to 4K UHD to packetized IP signals, either encrypted or unencrypted depending on the use case and level of security desired. If they are secured as encrypted IP signals, the audio and video signals are protected until they are decoded and decrypted, if necessary, by the corresponding Secura receiver node or endpoint. The packetized IP signals are transported across the IP network using media-class, enterprise commercial off-the-shelf (COTS) IP network switches. For encryption, source media is secured using fixed key AES-256 encryption that can only be accessed by the corresponding Secura A/V over IP or Secura KVM receiver configured with the corresponding key for decryption of the specified IP flow.

SECURA IP RECEIVERS

PESA Secura receiver endpoints or nodes (Secura A/V over IP or Secura KVM) are configured to receive packetized IP video and audio signals and decode them appropriately. If the signal is encrypted and the designated receiver has proper security authorization to decrypt the signal, thereby having the corresponding AES-256 key for decryption, the receiver can decrypt individually secured media flow(s) received across the network via the Ethernet IP switch. The Secura IP receiver endpoints or nodes will decode the received signal and restore the packetized media to its native HDMI format, ready for use.

SECURA KVM TRANSMITTER / RECEIVER

PESA Secura KVM over IP endpoints or nodes operate using Ethernet IP switched networks and bi-directional USB serial signals for input device control, which consists of HID mouse and keyboard as well as CAC and Token readers. The USB signals are converted to packetized IP signals for transport across the network as either encrypted or unencrypted signals, depending on the use case and security level required. Once encoded and encrypted, the secured signal is protected until they reach an authorized endpoint. If the signal is encrypted, the endpoint must also provide the corresponding security key to decrypt the signal before decoding it within an authorized receiving Secura endpoint or node.

The packetized IP signal is transported across the network utilizing a media-class, enterprise commercial off-the-shelf (COTS) network switch. Secura KVM is designed to deliver up to 4K UHD (p60, 4:4:4) resolutions to every monitor in the users' workspace. Authorized users directly access network resources from Virtual Desktop Infrastructure (VDI) servers through Thin/Zero Clients or physical PC, workstation or servers. This provides extra security and a smoother workflow while removing clutter from the workspace.

Part Number	Description
SAS-IP-S	Secura Atlas Server, System Controller, 1RU, for up to 144 Endpoints, Hardware Only
SAS-IP-1K	Secura Atlas Server, System Controller, 2RU, for up to 1000 Endpoints, Hardware Only
SASVMSW	Atlas Server, Base System Controller Software - including VM
IPCS-[XXXX]*	Connections - For Devices where [XXXX] = [0001-ENT] *
SDS-IP-S	Secura Discovery Server, for DHCP/NMOS Support, 1RU, for up to 144 Endpoints, Hardware Only
SDS-IP-1K	Secura Discovery Server, for DHCP/NMOS Support, 2RU, for up to 1000 Endpoints, Hardware Only
SDSBSW	Discovery Server, Base Software
SDSNMSW-[XXXX]*	Discovery Server, Registration/DHCP/DNS Software (NMOS) for system Devices where [XXXX] = [0001-ENT] *
SNCP-1-7	Secura Navigator, System Control Panel - 7" Touchscreen, Hardware Only
SNCP-1-10	Secura Navigator, System Control Panel - 10" Touchscreen, Hardware Only

*Contact sales for more information

ABOUT PESA

PESA has been a leading provider of secure professional-grade audio and video products for over 47 years. Video Distribution Systems (VDS), Routers, Signal processing devices, and Control & Management systems have all been a part of the complete PESA system portfolio. PESA continues to lead in developing innovative IP media solutions with the new Secura® brand of Media Management and secure Endpoints. Secura products ensure military-grade protection for mission critical media signals for military, government, corporate and broadcast environments. PESA proudly supports our many customers with a 24/7/365 round the clock technical support team. PESA is located in Huntsville, Alabama with regional sales offices throughout North America, China, Europe and the Middle East.

Learn more about PESA on our website at <http://www.pesa.com> and follow us on Twitter: @PESA_ONLINE and LinkedIn: PESA.

