HVAGH

Virtual Air Gap

(SAHAB)

Information Exchange Gateway
Cross Domain Solution

Security Shield

Bidirectonal Communication
Firewall and Diode Functionalities
... and Much More
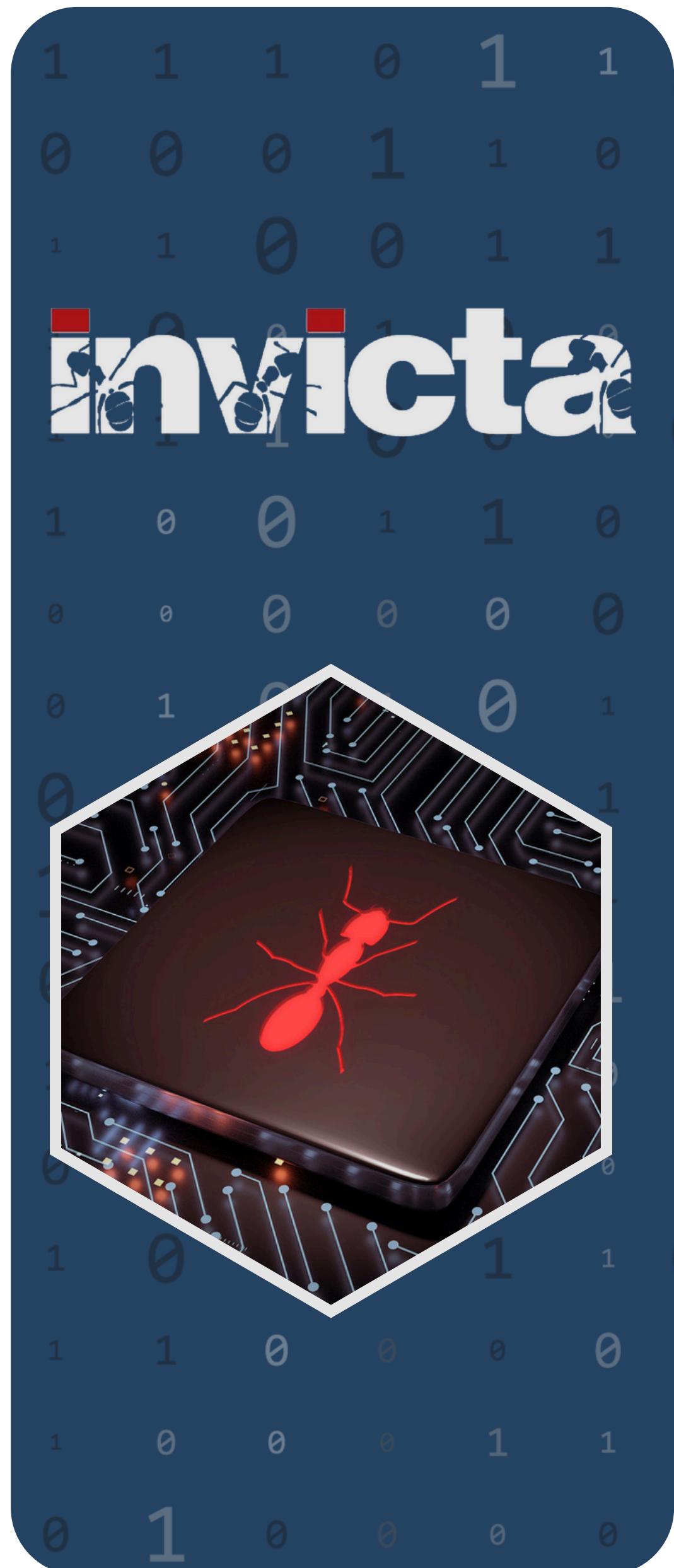
invicta

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HARDWARE

- 2 x 1U COTS Server
- PCI-e Shared Memory
- Ethernet (1G, 10G)
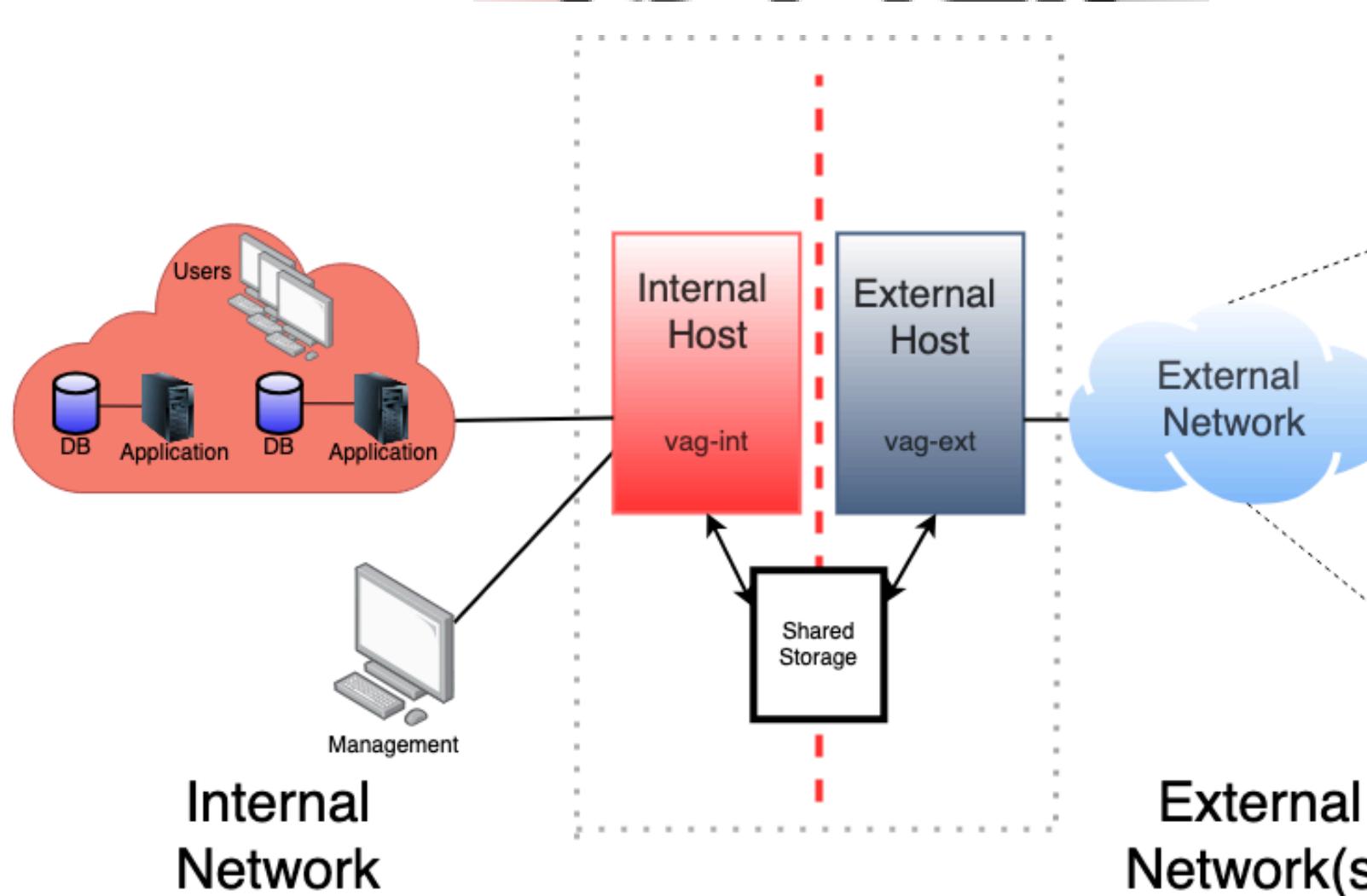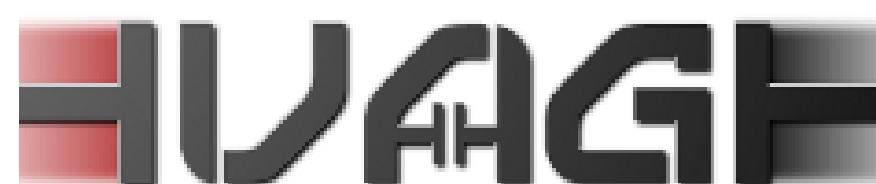
SOFTWARE

- *Invictus*
  - *Debian Linux*
  - Customized *and Hardened*
  - *Protocol-Based Proxy Components*
- Internal Security Components
  - *IPtables, Suricata, HIDS, Malware Control, L7 App FW*
- EAL4+

PERFORMANCE

- Bandwidth
  - **7,5 Gbps**
- Latency
  - **0.1 ms**

ARCHITECTURE

- Two Seperate Hosts
  - Dual-guarded security zone
- TCP/UDP/IP communication
  - *is terminated, no direct end-to-end connectivity!*
- Air Gap
- Inter-host communicaton
  - *Proprietary, Encrypted, and Signed*

INTEGRATION

- **VEGS**
  - Data inspection via security labels (XML Security Label)
- **E-SBSL**
  - User and server-based communicaton control

VEGS
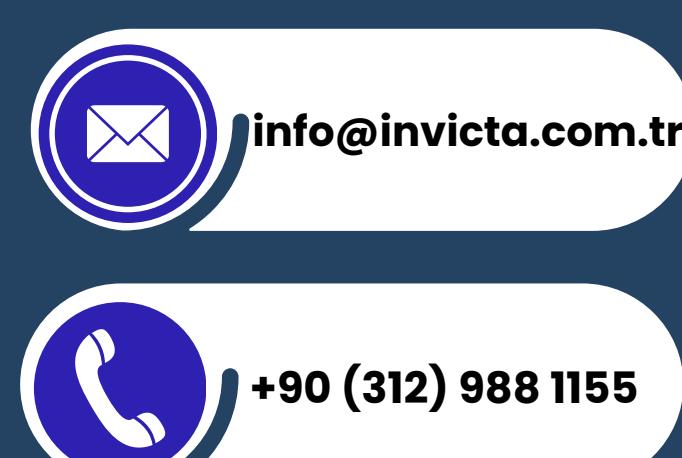
DATA LABELING SECURITY SYSTEM

- XML Security Labels
  - **NATO *ADAT-P 4474, 4778***
    - *"Cosmic Top Secret", "Top Secret", "Secret", "Restricted", …*
  - *Defining security clearance/levels*
- *Label your data !*
  - *Ensure data reaches authorized endpoints!*

XML SECURITY LABEL

- Microservice Architecture
  - *Labeling Library*
  - *API-based Access*
  - *Data Labeling*
  - *Inspection/Auditing via VAG*
- *User Management*
  - *Security Level*
  - *LDAP, AD Integration*

MINIVAG

- All-in-one Box
- Small Form Factor (SFF)
  - *Set-Top Box dimensions*
  - *Embedded Design*
  - *FPGA "Shared Memory"*
- Full VAG Feature Set
- 1 Gbps
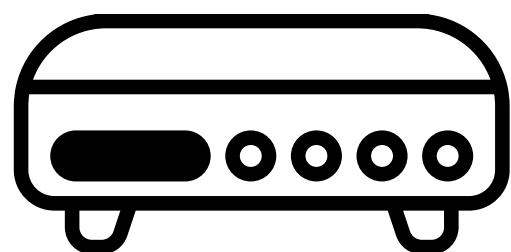
- Mobile Units
  - *Land, Maritime, and Airborne Platforms*
- Enterprise Offices
- SoHo