X-ARBITOR

NEXT GENERATION CROSS DOMAIN TRANSFER SOLUTION

WHAT IS IT?

X-domain Agile Rules-Based Information Transfer OrchestratoR is *THE* next-generation cross domain transfer solution, advancing cross domain solution (CDS) technology through a groundbreaking, innovative architecture designed from the ground-up to be Raise The Bar (RTB) compliant. Supporting simultaneous, bi-directional transfers between multiple different security domains, X-ARBITOR delivers a secure, scalable, and extensible framework engineered to enable rapid deployment of cross-domain data inspection, sanitization, and transfer capabilities, leveraging modularity and configurability not seen in traditional CDS.

SECURE AGILITY

X-ARBITOR's architecture development was guided by the principle of "Secure Agility"- the ability to quickly adapt to changing mission needs while simultaneously enforcing stringent RTB security requirements mandated for CDS.

HOW IS SECURE AGILITY IMPLEMENTED?

X-ARBITOR leverages a rigorously vetted secure framework to establish a trusted foundation, and integrates modularity and configurability to achieve built-in agility.

SECURE FRAMEWORK

- **Raise-The-Bar Compliant**
  - RTB Acceptable Design Pattern (ADP) is based on X-ARBITOR's architecture
- **NIAP Evaluated OS -** Red Hat Enterprise Linux
- **SELinux Enforcing Mode -** Granular MAC policies
- **Root of Trust** - Industry-standard Secure Boot
- **Audit/Log Archive and Streaming**
- **File Integrity and Process Monitoring**
- **Role-Based Access Control**
- **Compile Time Security**
- **Rules-Based Security Event Management**

BUILT-IN AGILITY

- **Secure CDS Orchestration Engine (SCOrE)**
  - Filtering policy defined per data flow
  - Supports Filter Plug-ins
  - Configurable via intuitive GUIs

- **Pluggable Filters & Protocol Adapters**
- **Modular SELinux Policy**
- **Signed RPM Package Updates**
- **"Zero Code Change" Filter Additions (DFDL)**
- **Agile Development with Integrated IV&V**
- **100% GUI-Driven Administration**
- **API Libraries for Mission Application Integration**

A N D ,   S O   M U C H   M O R E . . . .

THE AIR FORCE RESEARCH LABORATORY

X-ARBITOR

MISSION SUPPORT CAPABILITIES

As a successor to the ISSE Guard, X-ARBITOR maintains a robust GUI-driven administration capability, and provides a backwards compatible API to support existing mission applications:

- **DataSync+ and MLDBR**: Multi-Level Database Replication/Synchronization
- **SAWES**: Security and Workflow Enforcement Services
- **HEVELFT**: High Enterprise Volume / Extremely Large File Transfer
- **PrintUP**: Secure Cross Domain Print (Low-To-High)
- **Reliable Human Review (RHR)**
- **Web Services Adapter**

CORE COMPONENTS

X-ARBITOR incorporates several core components that enable *Secure Agility* including:

- **Protocol Adapter Framework** – Pluggable modules to support diverse mission communication needs
- **Filter Orchestration Engine (FOE)** – Secure Cross Domain orchestration engine to control data flows across multiple domains (up to 22)
  - Recursive Decomposition of embedded file types/objects
  - Signed Orchestration Policies
  - Filter Flow Cryptographically enforced
  - RPM-based Filter Plug-ins
- **Filters – Pluggable Filter Modules**
  - X-ARBITOR transfers a wide variety of file types, including both highly structured messages (e.g. XML) and complex file types such as Microsoft™ Office and PDF files
  - Data Format Description Language (DFDL) Filter – no code changes needed to add filters, just schema definition
- **Management** – Dedicated network interface to support SIEM
- **Administration** – 100% GUI-driven system administration
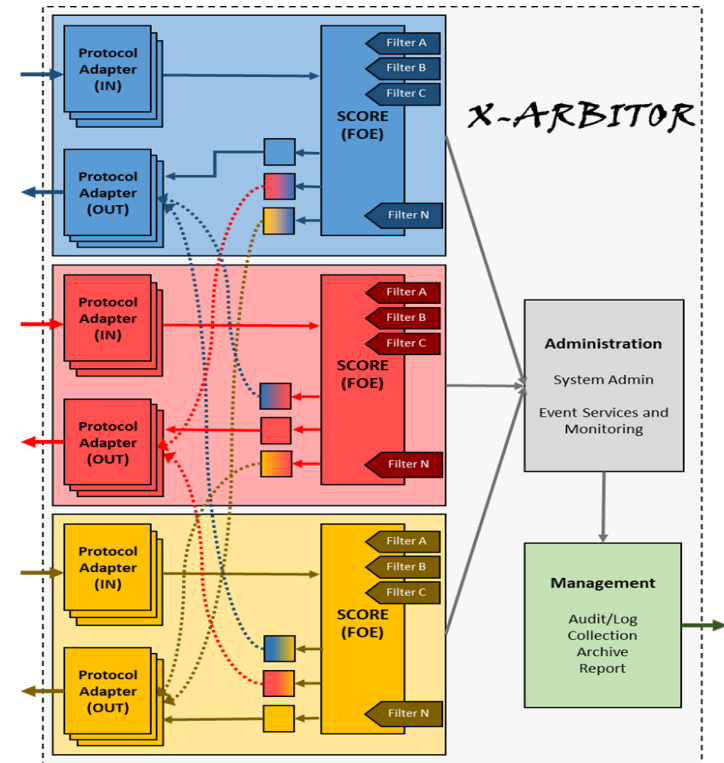
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