

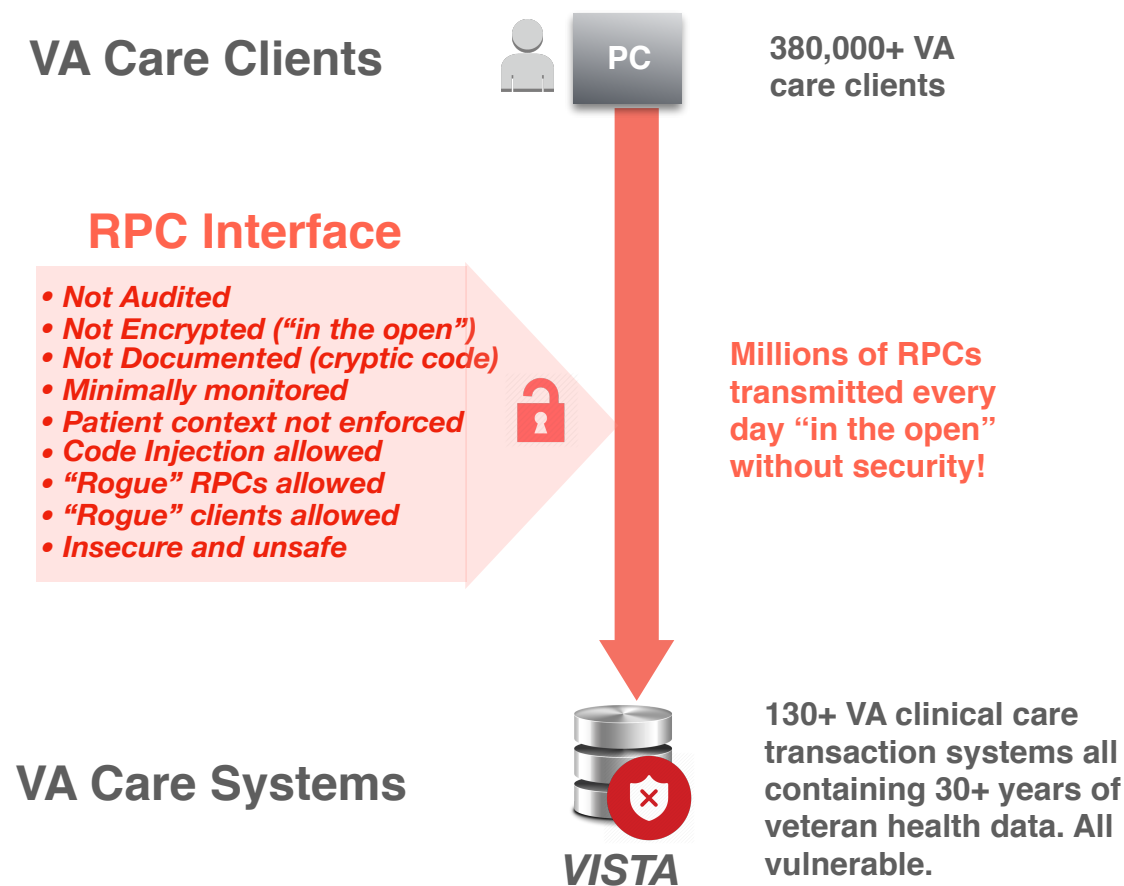


Best Practices for VA's Care Systems: Cloud Monitoring and Security

The VA Care Interface is the VISTA Remote Procedure Call (RPC) interface. This connects all VA Care Clients to all VA Care Systems, and provides the millions transactions each day required for Veteran Care. However the RPC Interface is highly vulnerable, putting at risk veteran health data.

Current state (2019)

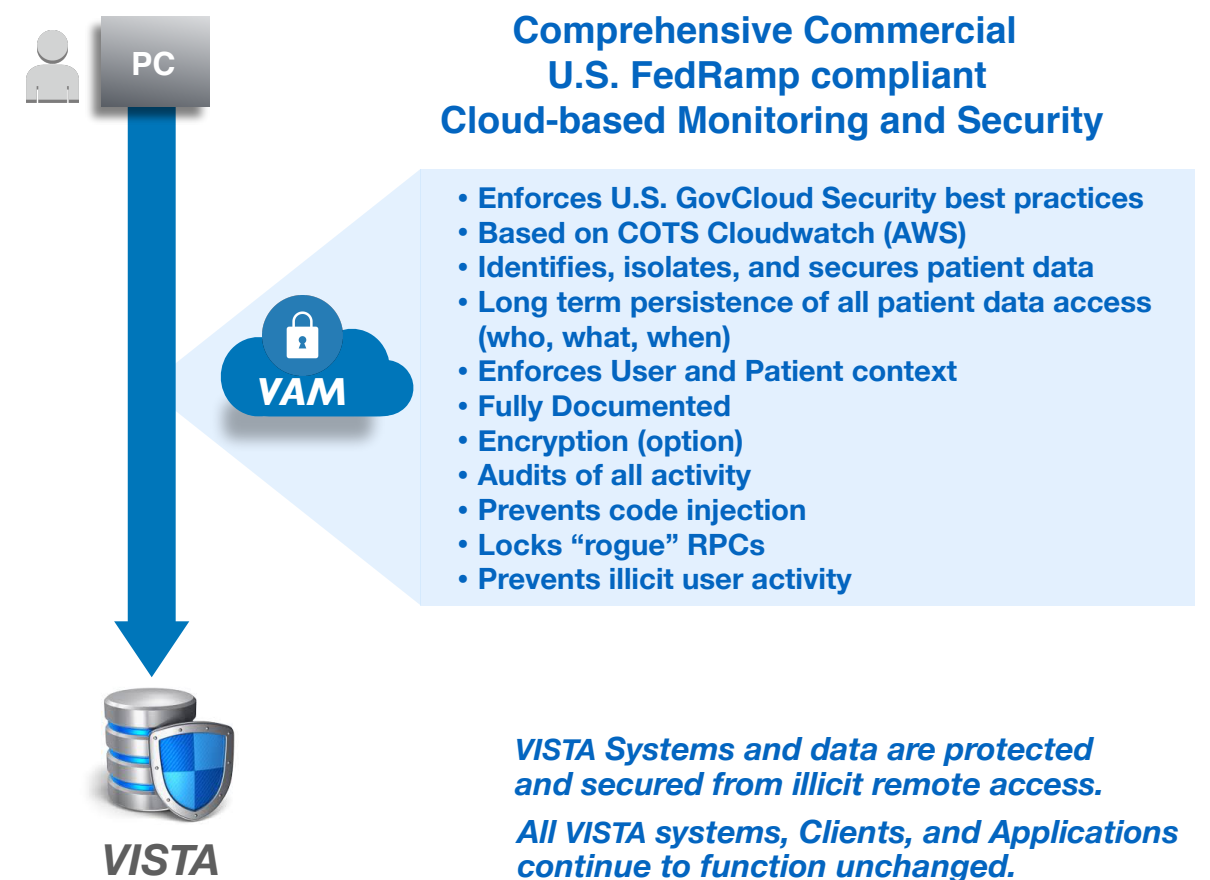
*Minimally monitored and secured
VA clinical care interface*



VA care systems and data are highly exposed with minimal protections and no monitoring.

Cloud Monitoring and Security

*U.S. GovCloud Security best practices for
VA's clinical care interface.*



Best practice security and monitoring of VA care data with no change to VA's clients or VistA systems.



VA's Key Interface for Veteran Care



*VistA's Remote Procedure Call (RPC) interface
connects all VA's Care Providers to VA's Care Systems,
providing millions of clinical care transactions each day*

VA Care Providers



100,000+ clinical end-users

*VistA's RPC interface
is the mission-critical
interface providing millions
of clinical services for all
veterans every day*

RPC

Each day in VA
500+ million RPCs create
4+ million new

- clinical documents
- pharmacy orders
- lab orders
- imaging studies
- and more...

VA Care Systems

VistA

130+ clinical systems



VA's Key Interface for Veteran Care



VistA's Remote Procedure Call (RPC) interface connects all VA's Care Providers to VA's Care Systems, providing millions of clinical care transactions each day

VA Care Providers



100,000+ clinical end-users

VistA's RPC interface is the mission-critical interface providing millions of clinical services for all veterans every day

RPC

- Thousands
- Cryptic
- Code-driven
- Undocumented
- Unmonitored
- Un-audited
- Un-encrypted
- Un-maintained
- INSECURE

but... this interface it is unmanaged, unmonitored, and insecure

VA Care Systems

VistA

130+ clinical systems

RPC Interface

VA's Key Interface for Veteran Care

- Clients (CPRS) must be maintained to provide continuity of care
- 10+ year lifespan at minimum (during VA EHR modernization transition)

Nature

- **Thousands** (3000+)
- **Cryptic** (legacy, code-driven)
- **Inefficient** (chatty; duplicative)
- **Underspecified** (parameters,...)
- **Undocumented** (“read the code”)
- **Unmonitored** (actions?)
- **Unaudited** (scope? function?)
- **Unencrypted** (transmits “in the open”)
- **Result**
 - Opaque, unmanageable
 - Security and Audit difficult or impractical

Cloud Emergence

U.S. GovCloud (AWS, Azure,..)

- VA Enterprise Cloud

COTS Cloud Services

- Logging
- Monitoring
- “Elastic” Storage
- Processing
- Automation, Pipelines
- ... and more

Containers

- De-composition promoted
- Ease of incremental deployment