

# VA Health Cloud: Fact Sheet

May 10, 2022

Platform	VISTA [1]	Cerner [2]	VA Health Cloud
Year Created (age)	1979 (43 years)	1979 (43 years)	2020 (2 years)
Platform Technology	MUMPS [3]	Oracle [4]	IRIS Health Platform [5][6]
Platform scale	High performance transactional database used in finance and healthcare worldwide managing billions of transactions daily.	Scale limited by legacy data center in Kansas. Poor reliability and uptime (see below)	Largest, most-deployed, healthcare platform in US. Stores and manages the health records of 2/3 of the US population. (Epic is also based on the IRIS platform)
VA-DOD Interoperability	Current state: JLV. Real-time access to all VA and DOD health information systems (425 data fields)	Post-implementation of Cerner, VA-DOD interoperability is poorer, less reliable, and less accessible. JLV is therefore still used post-go-live at all Cerner sites. [reference]	Widest used commercial health exchange platform in the US; manages 2/3 of US healthcare data exchange. VA (VISTA), DOD (Cerner), and Community Care fully interoperable "out of the box".
Client	CPRS	Powerchart	Cloud CPRS
Client Access	Windows desktop	Citrix	Amazon AppStream
Client Technology	Delphi [7][8] Last release: 2022 (current active)	Visual Basic [9] Last release: 1998 (discontinued; no support or updates for 24 years)	Web (Chrome, Edge, Firefox)
Nationwide EHR User Satisfaction Rating [12]	#1 (easiest to use)	#10 (usability challenges)	#1 (easiest to use)
Cloud-native [17]	No	No	Yes (300+ cloud services)
Data Centers [13][14]	4 - regional	1 - Kansas (single point of failure)	38 - Worldwide 2 - U.S. GovCloud
Reliability / Uptime	99.95%	< 95% (poor) [15] (52 unplanned system outages in past 15 months)	>99.99% [16] (highest reliability in the industry)
Data ownership and access	VA (full access in perpetuity)	Cerner (restricted; vendor-locked)	VA (full access in perpetuity)
Implementation strategy	NA (already in full operation)	Rip-and-replace (disruptive, high-risk)	Cloud migration (proven, low-risk)
Response time for change requests	1-2 days	2-4 years	1-2 weeks
Training requirement	2 hours. (65% of all doctors in the USA have already trained on CPRS)	30+ hours minimum	None (no change in client or workflows)
Preserves VA institutional knowledge	Yes.	No. Rip and replaced.	Yes. Seamless continuity.
Preserves VA workflows	Yes.	No. Rip and replaced.	Yes. Seamless continuity.

Timeline for implementation	NA. (already in full operation)	10 years (2030)	24 months (2024)
Infrastructure update cost	NA (already in full operation)	\$6 billion (on-premises hardware)	None. (infrastructure migrated to cloud)
Initial implementation cost	NA (already in full operation)	\$16 billion (minimum)	\$200 million
Annual operational cost	\$200 million	\$2.1 billion	\$100 million

## System

[1] <https://en.wikipedia.org/wiki/VistA>

[2] <https://en.wikipedia.org/wiki/Cerner>

## Platform

[3] <https://en.wikipedia.org/wiki/MUMPS>

[4] [https://en.wikipedia.org/wiki/Oracle\\_Database](https://en.wikipedia.org/wiki/Oracle_Database)

[5] <https://www.intersystems.com/data-platform>

[6] <https://www.healthcareitnews.com/news/epic-use-intersystems-data-foundation-latest-ehr-release>

## Client Technology

[7] [https://en.wikipedia.org/wiki/Delphi\\_\(software\)](https://en.wikipedia.org/wiki/Delphi_(software))

[8] <https://www.embarcadero.com/products/delphi>

[9] [https://en.wikipedia.org/wiki/Visual\\_Basic\\_\(classic\)](https://en.wikipedia.org/wiki/Visual_Basic_(classic))

## Client Access

[10] [https://en.wikipedia.org/wiki/Citrix\\_Virtual/Desktops](https://en.wikipedia.org/wiki/Citrix_Virtual/Desktops)

[11] <https://aws.amazon.com/appstream2/>

## National EHR User Satisfaction Rating

[12] <https://www.medscape.com/features/slideshow/public/ehr2016#page=8>

## Data Centers

[13] <https://www.datacenters.com/amazon-aws-data-center-locations>

[14] <https://aws.amazon.com/govcloud-us>

## Reliability / Uptime

[15] <https://ehrintelligence.com/news/cerner-falls-short-of-va-ehr-system-uptime-obligation>

[16] <https://www.logicata.com/blog/aws-service-level-agreement/>

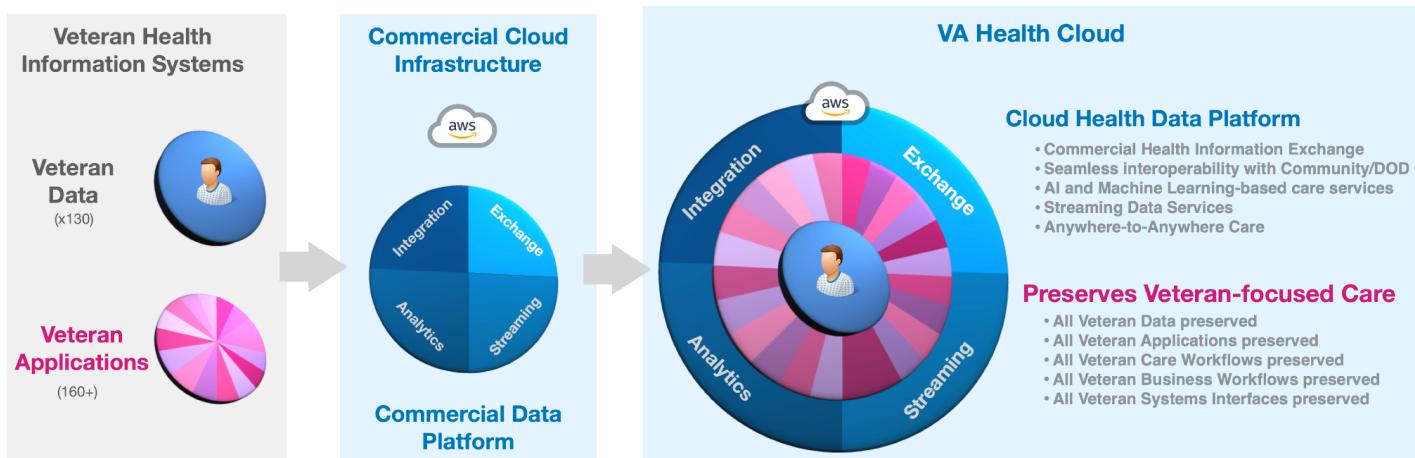
## Cloud Services

[17] <https://medium.com/cloudpegboard/how-many-aws-services-are-there-51dda44fa946>

# VA Health Cloud

**Safe, proven, incremental migration of the VA health information systems to a modern maintainable commercial cloud architecture while preserving all veteran care workflows and data.**

U.S. Department of Veterans Affairs  
VA Enterprise Cloud Architecture  
Update: May 10, 2022



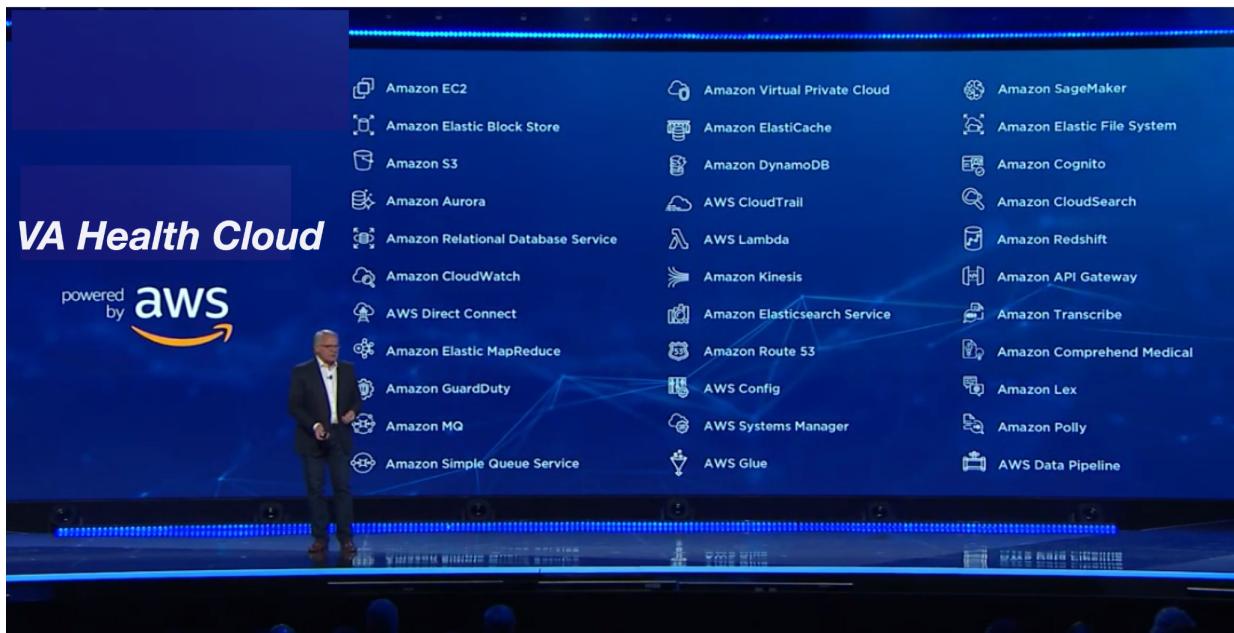
*More than 2/3 of the U.S. population has some component of their health record stored and managed in the same platform as the VA Health Cloud.*

## Migration Progress

	<b>Cloud Infrastructure</b>	<ul style="list-style-type: none"><li>Migration of VISTA to modern, mainstream, commercially-supported cloud infrastructure (Amazon Web Services and Microsoft Azure)</li><li>Provides immediate performance and scalability improvements.</li><li>Provides access to over 200 off-the-shelf commercial cloud services</li><li>Status: Proven for ten VISTA systems in full operation on AWS; ready for scale up.</li></ul>
	<b>Cloud Data Platform</b>	<ul style="list-style-type: none"><li>Migration of VISTA to a commercial healthcare data platform (Intersystems IRIS).</li><li><i>IRIS is the largest commercial healthcare platform in the USA, and stores and exchanges the health records of nearly 2/3 of the US population.</i></li><li>Major EHR vendors such as Epic are based on the IRIS data platform (*).</li><li>Status: Proven and in production for most VISTA systems.</li></ul>
	<b>Cloud Services</b>	<ul style="list-style-type: none"><li>Over 200 cloud services available in Amazon which can be leveraged immediately.</li><li>Example #1: Web Streaming of CPRS to web and mobile clients anywhere in the USA.</li><li>Example #2: Zero-Trust Security of all veteran data in VISTA.</li><li>Status: Proven and in production at pilot VA medical centers; ready for scale up</li></ul>

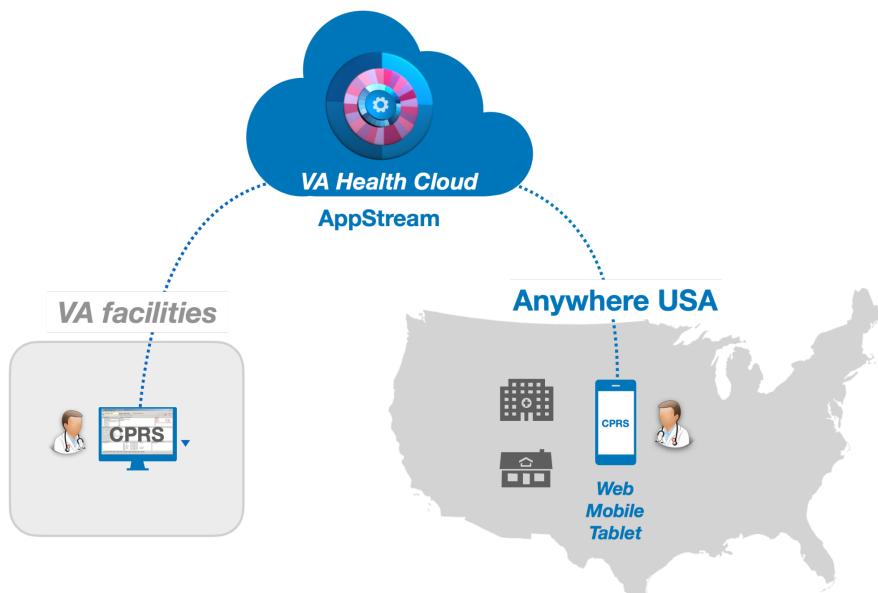
# VA Health Cloud Services

Over two hundred commercial off-the-shelf cloud services are immediately accessible within the VA Health Cloud, and can be leveraged to improve access, efficiency, and quality of veteran care. These include Artificial Intelligence, Machine Learning, Natural Language Processing, and Web Streaming services.



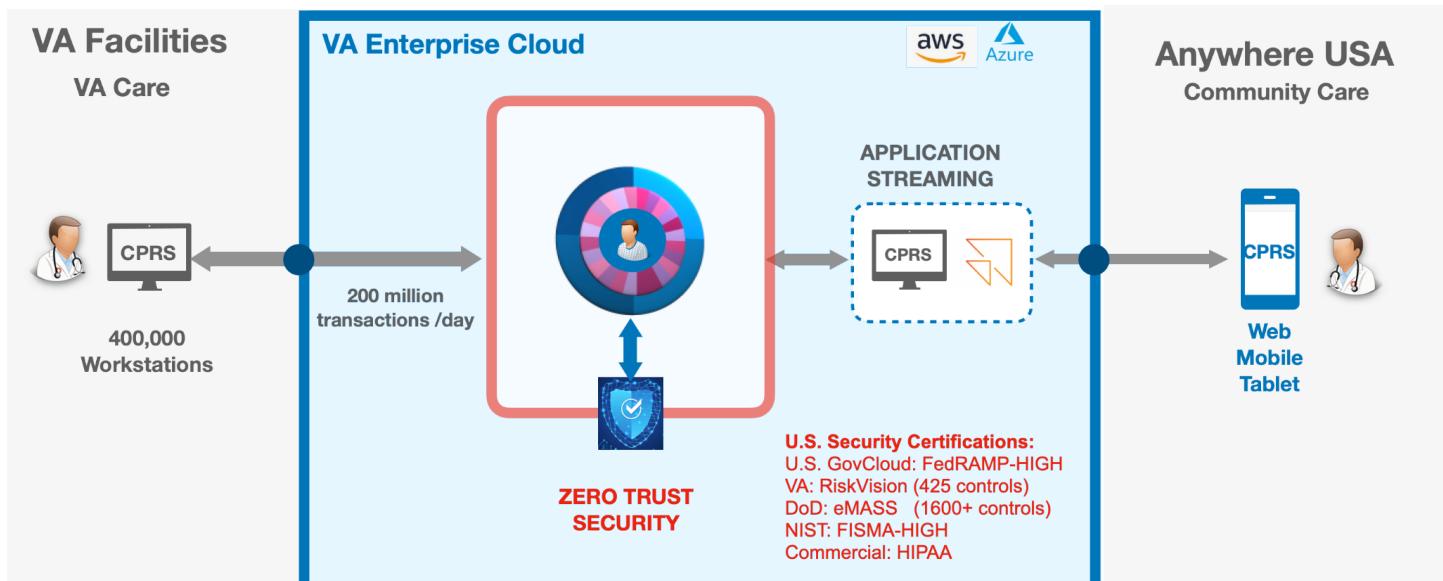
## AppStream Service

App Streaming from VA Health Cloud securely streams CPRS anytime, anywhere, to any web or mobile device, expanding real-time access to veteran care via Community Care providers anywhere in the USA.



# Security Service

The VA Health Cloud is certified to the highest security standards in the Federal government, making Veteran health data securely accessible for care across the USA.



Security includes the most stringent U.S. government regulations, policies, and standards

