Data Science Platform as a Service: An Approach for Non-Programmers

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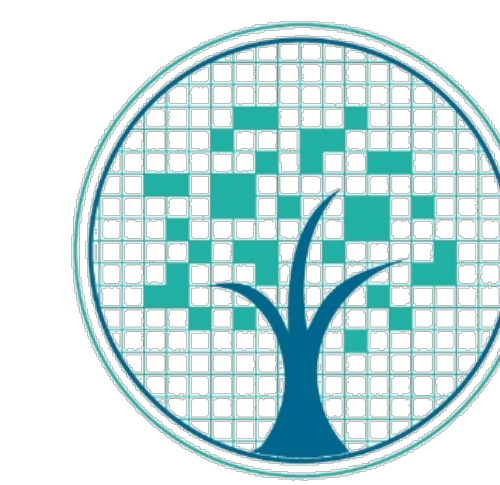West Health Institute, La Jolla, CA

BACKGROUND

The healthcare needs of seniors are characterized by chronic illness extended over multiple episodes and time-periods that often require a wide range of providers, both clinical and community-based. This combination of long-term episodic healthcare needs and dispersion of providers means that healthcare data on seniors is likewise scattered, equivocal, and isolated. To obtain a comprehensive view of senior healthcare needs, these data need to be understood in a shared context among stakeholders.
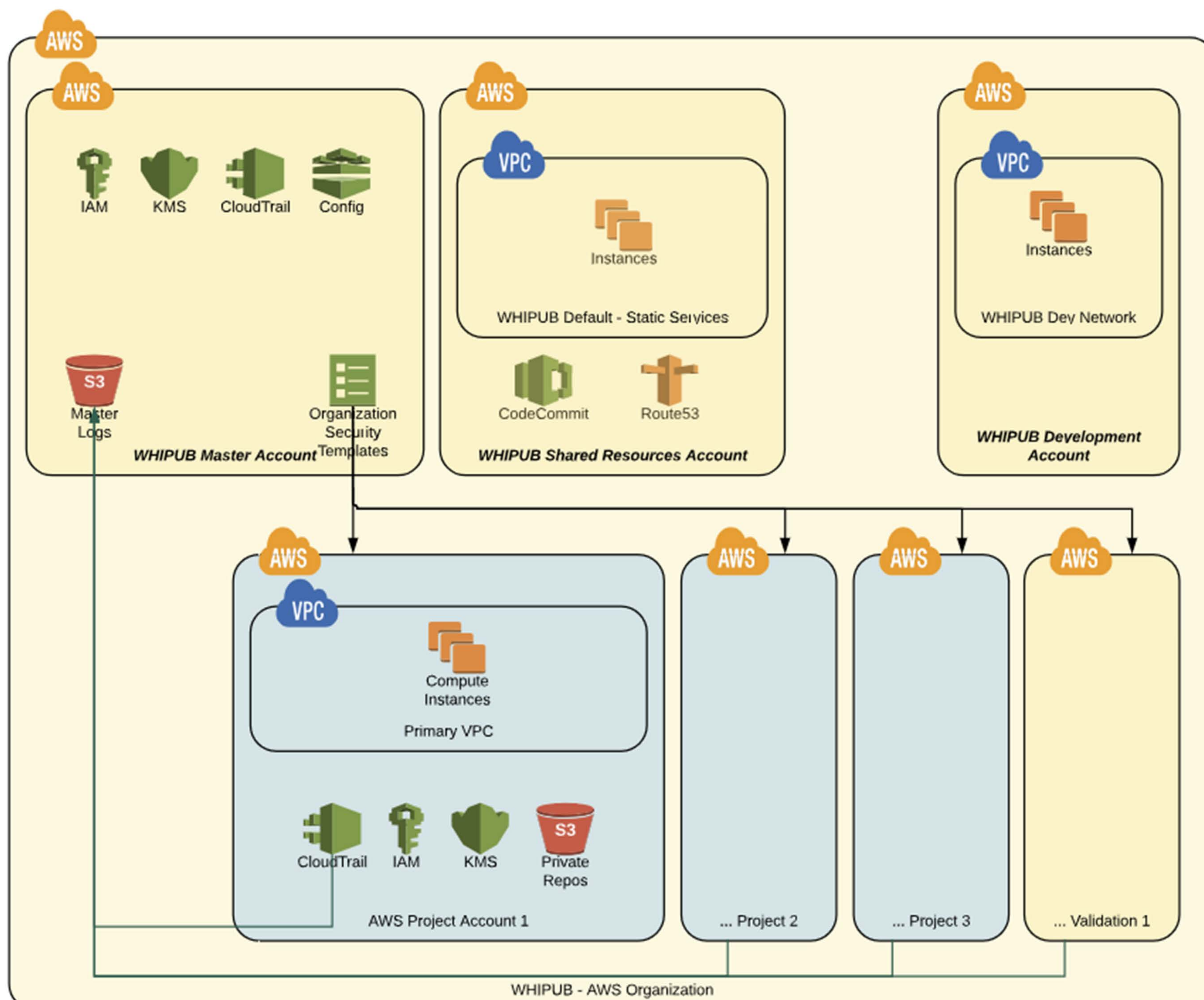
GUIDING PRINCIPLES

1. *Security* – Implement, monitor, and maintain a multilayered, proactive, policy-compliant environment using the best technology, policies, and practices

2. *Quality* – Extract, transform, document, normalize and disambiguate data using a framework for continuous iterative improvement

3. *Usability* – Enable fast, seamless, and secure access to data to accelerate analyses, innovation, and insight. Architected using primarily opensource software, limiting reliance on specific software vendors, licensing fees, or data types.

DATA SOURCES

WEST HEALTH CLOUD ARCHITECTURE

ANALYTIC TOOLS

WHAT'S THE PLAN?

Extend our in-house Data Science capabilities to external collaborators, who can securely upload new data or use existing data, and analyze that data using customized tools provided by West Health Data Science (WHDS). Using well-developed processes and tools, WHDS does most (if not all) data cleaning and formatting, leaving collaborators to focus on research. Our next steps:

- Finalize proposal and application process for
- Complete technical validation of platform (security, engineering)
- Finalize policy and governance framework

As a nonprofit research organization, WHDS facilitates and enables data science for collaborators to develop a comprehensive understanding of senior healthcare needs and related issues. For additional information:

http://www.westhealth.org/resources/data-science/