The Department of Veterans Affairs (VA) has established leadership in genomic medicine through the undertaking of a ground-breaking program called the Million Veteran Program (MVP). Launched in 2011, MVP invites users of the VA healthcare system nationwide to participate in a longitudinal study with the aim of better understanding the inter-relation of genetic characteristics, behaviors and environmental factors, and Veteran’s health. Today, with over 580,000 participants and recruiting at 50 VA sites nationally, MVP is the largest genomic research database in the world. The MVP data consists of blood samples from consenting Veterans that is used to generate genomic data, data from questionnaires and the electronic health record data. This resource is made available to VA researchers and VA-approved affiliates to pursue genomic discoveries and validation studies that can lead to personalized healthcare for Veterans. Ultimately, over the long term, validated scientific findings will be returned to the Veteran and incorporated into their medical record to fulfill the potential of personalized medicine – delivery of optimal interventions to patients based on their biological characteristics.

The primary component of the project is the Genomic Information System for Integrative Science (Genisis) platform. Genisis 1.0, implemented over a four-year period (2011 - 2015), features a series of modular applications to facilitate recruitment and enrollment of MVP participants, automating most study-related logistics including study enrollment, clinical study data capture, consent, blood sample tracking, and genomic data storage. Genisis 1.0 also provides the secure analytical infrastructure necessary to conduct robust genomic and bioinformatics-related data management and data analysis. This remotely accessible analysis environment features a high- performance computing cluster with significant storage capacity and tools for scientific analysis of combined genotypic and phenotypic data.

This project, Genisis2 Technical Services, provides additional functionality to the Genisis 1.0 platform by automating data processing, data request transactions, and data request tracking for integrating VA Informatics and Computing Infrastructure (VINCI) clinical data into Genisis2, as well as providing enhanced system administration. Additional information is available in the Master Test Plan that supports Genisis2 Build 4.