



United HealthCare



The Challenge

Discovering and safeguarding Protected Health Information (PHI) in an aggregate data lake with structured and unstructured data from heterogeneous sources such as claims, provider, and subscriber management applications, enterprise databases, and data warehouses.

Global Leader

UnitedHealth Group (UHG) provides health benefits and services to more than 85 million individuals worldwide including all 50 states in the United States and more than 125 other countries, with worldwide revenues of over \$120 billion (Ranked #14 on Fortune 500). UHG's core capabilities in clinical care resources, information and technology uniquely enable it to meet the evolving needs of a changing healthcare environment in order to help build a stronger, higher quality health system that is sustainable for the long term. UHG serves its clients and consumers through two distinct platforms: United Healthcare (UHC), which provides health care coverage and benefits services and Optum, which provides information and technology-enabled health services.

Business Context

Given UHC's diverse subscriber base and global reach, member information needs to be shared and managed responsibly, and with fine grained security, by a variety of resources. In addition to mandatory health information protection laws such as HIPAA and HITECH, which mandate protecting this information from data breaches and fraud, it is imperative for the health of UHC's business that members trust their personal information remains private and secure. UHC's aggregate data lake contains data from a variety of sources:

About PKWARE

PKWARE offers the only data discovery and protection solution that locates and secures sensitive data to minimize organizational risks and costs, regardless of device or environment. Our ultra-efficient, scalable software is simple to use on a broad range of data types and repositories, enabling precise, automated visibility and control of personal data, even in the fastest-moving, most complex IT environments. With more than 1,200 customers, including many of the world's largest financial institutions, retailers, healthcare organizations, and government agencies, PKWARE continues to innovate as an award-winning global leader in data discovery, security, and compliance. To learn more, visit PKWARE.com.

The Solution

PKWARE suite delivered integrated discovery and protection services for PHI data within aggregate data lake platform built on MapR by UHC:

- UHC's nuanced needs to accurately discover and visually present where sensitive PHI data resides and understand its protection status were perfectly matched by PK Discovery.
- UHC was able to encrypt or mask subscribers' PHI information residing in HDFS with pinpoint accuracy utilizing PKWARE for Hadoop data centric protection.
- UHC shares de-sensitized data from aggregate data lake for analytics and other purposes across its worldwide teams utilizing PKWARE masking technologies.

UHC leverages PKWARE encryption technologies to fit its custom requirements for encryption and key management while providing seamless access to plain text data from a variety of data access contexts for authorized users utilizing flexible PKWARE decryption techniques.

Big Data Protection Goals

- Automatically locate and classify where PHI information resides on an on-going basis.
- De-identify member information to ensure privacy and compliance with HIPAA, HITECH and enable data sharing across different groups worldwide.
- Data-centric encryption for PHI elements to protect from insider and external threats.
- Provide authorized access (decryption) of sensitive data on a case-by-case basis for analytics applications that require access to plaintext data.

