GenoDist aims to provide fast, safe and secure data management online. The data which is planned to be deal with is huge that can be expressed even in petabytes, and there is an abstract data for each data set which contains brief information about real data.

In order to be capable of dealing with such big data, it will be distributed among multiple servers. Since whole data will not be used by a client, only abstracts of the data sets will be stored in client side. However, all of the clients should know about the content of the real data, so the abstracts will be stored as block-chain in clients, which is a data structure used for storing continuously growing list of records without tampering or revision. By that way, clients can see the content of the real data and download whatever part of the data they need, manipulate it and upload it back to servers. But, the data in the block-chain cannot be manipulated by clients. In case of data addition, a block contains the abstract information will be added synchronously to block-chains on clients and the actual data will be distributed among servers.

For the data safety, the GenoDist will also have data backups to deal with arbitrary server failures. Also, to provide security for users’ data, the data to be stored will be encrypted not to allow 3rd party users to access it. Also, the connections between connections and clients should not leave a back door for unauthorized people.