## **Overview**

CloudGraph™ is a suite of Java™ data-graph mapping and ad hoc query services for big-table sparse, columnar “cloud” databases. It provides services and infrastructure to impose the structure of your business domain model, regardless of its size or complexity, as a data-graph oriented service layer over Apache HBase, Apache Cassandra and a growing list of others. All CloudGraph™ services are based on the Service Data Objects (SDO) 2.1 specification standard. And within the SDO standard, the basic structural unit of processing is the graph or data-graph. Under CloudGraph™ a data-graph may be persisted across any number of rows or tables, and subsequently queried or “sliced” ad hoc using XPath or a generated Domain Specific Language (DSL) based on your domain model.

Distributed “cloud” databases allow for a new level of scalability at low cost and are extremely flexible and dynamic in terms of their underlying schema. But while these data stores support a practically unlimited number of columns within a single table, mapping and managing hundreds or even thousands of column name/qualifiers within a client application can be a significant challenge. Using CloudGraph™, application complexity is mitigated as developers and architects deal with generated higher-level typed structures with meaning within the application domain, rather than low-level row and column qualifiers and values, typically manipulated as un-typed un-interpreted Java byte arrays.