SQL extensions for Property Graphs (PGs)

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The formal standards committees responsible for standardizing SQL (ISO/IEC JTC1/SC32/WG3 internationally and INCITS DM32.2 within the USA) have taken up the task to enhance the well-known SQL standard with extensions to query property graphs (SQL/PGQ) [1].

SQL/PGQ will contain extensions for SQL to create, maintain, and query property graphs. Work is currently ongoing to define these extensions. SQL/PGQ is scheduled for publication together with the next revision of the SQL standard in 2020/21. The scope of the initial version of SQL/PGQ can be summarized as follows:

* Definition of a property graph over existing relational tables
* With directed edge support
* Support for multiple named graphs
* Read-only graph query
* With the ability to find and return shortest and cheapest paths
* Modification of graph elements (vertices and edges) can be done through existing SQL DML operations on the underlying tables

Possible future extensions beyond the first version of SQL/PGQ may include support for graph DML and graph construction, undirected edges and mixed graphs, and graph analytics and procedural extensions.

[1] http://www.incits.org/committees/dm32.2-sql-property-graphs