**REVIEW ANALYSIS OF INDIAN STANDARD**

**(To be submitted to the Sectional Committee)**

**Brief of the standard:** The following document defines ways for the SQL language to represent property graphs and to interact with them. It specifies the syntax and semantics for property graph queries in SQL. It extends SQL to support querying and manipulating property graphs, which consist of nodes and edges, where both nodes and edges can have associated properties. This standard aims to integrate graph processing capabilities within the SQL framework, enabling efficient querying and analysis of graph data directly in SQL databases.

1. **Sectional Committee No. & Title**: LITD 15 Data Management System
2. **IS No:** ISO/IEC 9075 (Part 16): 2023
3. **Title**: Information Technology Database Language SQL Part 16 Property Graph Queries (SQL/PGQ)
4. **Date of review:** 2nd July 2024
5. **Review Analysis**
   1. **Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.**

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| **Standard**  **(No. & Title)** | **Whether the standard has since been revised** | **Major changes** | **Action proposed** |
| ISO/IEC 9075 (Part 16): 2023 Information Technology Database Language SQL Part- 16 Property Graph Queries (SQL/PGQ) | Not revised | No change | No action required |

* 1. **Status of standards referred in the IS**

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| **Referred standards**  **(No. & Title)** | **IS No. of this standards since revised** | **Changes that are of affecting the standard under review** | **Action proposed** |
| IS/ISO/IEC 9075-1: 2016 Information Technology Database Language SQL Part 1 Framework (SQL / Framework) | Not revised | No change | No action required |
| ISO/IEC 9075-2: 2023 Information Technology Database Language SQL Part 2 Foundation (SQL / Foundation) | Not revised | No change | No action required |
| ISO/IEC 9075-4: 2016  Information Technology Database Languages SQL – Part 4 Persistent Stored Modules (SQL/PSM) | Revised by:  ISO/IEC 9075-4: 2023  Information Technology Database Languages SQL – Part 4 Persistent Stored Modules (SQL/PSM) | The main changes are as follows:   * — improve the presentation and accuracy of the summaries of implementation-defined and implementation-dependent aspects of this document; * — introduction of several digital artifacts; * — alignment with updated ISO house style and other guidelines for creating standards. | The following actions proposed are as follows:   * Improvement of Implementation Summaries * Introduce a new section or annex dedicated to Digital Artifacts, possibly under Clause 10. |
| ISO/IEC 9075-11: 2016 Information Technology Database Language SQL Part 11  Information and Definition Schemas (SQL / Schemata) | Not revised | No change | No action required |

* 1. **Issues arising out of changes in any related IS or due to formulation of new Indian Standard**

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| **Related IS and its Title**  **(revised or new)** | **Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision** | **Changes that may be necessary in the Standards under review** | **Action proposed** |
| ISO/IEC 39075: 2024 Information Technology – Database Languages - GQL | Modifications are made to Clause 4, “Concepts”, in ISO/IEC 9075-2. This includes specific subclauses such as "Notations and conventions" and "Columns, fields, and attributes"​.  This includes modifications related to SQL-schema statements, where new property graph statements are introduced: <property graph definition>, <alter property graph statement>, and <drop property graph statement>. | * New SQL statements and features specific to property graphs will require modifications to how schemas are defined, manipulated, and secured. * The addition of new reserved words and features could lead to incompatibilities with earlier versions, affecting existing implementations that need to adapt to these changes. |  Clearly define property graphs, including nodes, edges, and properties.   Add detailed explanations for property graph-related SQL statements (<property graph definition>, <alter property graph statement>, <drop property graph statement>).   Integrate new concepts related to property graphs with existing SQL concepts. |

1. **Recommendations:** No Revision is proposed with reference to the base standard. To ensure optimized results, we propose revising the base documentation to align with the latest industry standards and best practices. This involves a comprehensive review, streamlining content, and incorporating stakeholder feedback. The goal is to enhance clarity, efficiency, and usability, ultimately improving overall effectiveness.