

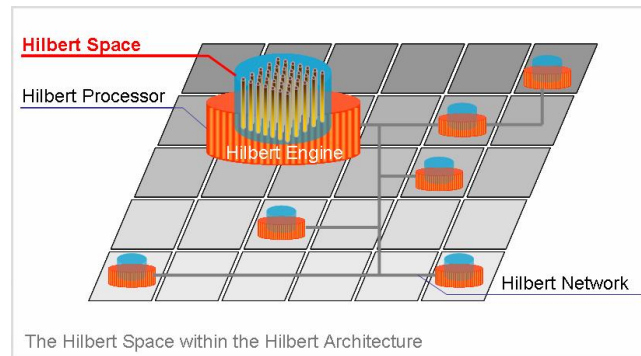
HILBERT[®] SPACE

OVERVIEW

As part of the Hilbert Architecture the Hilbert Space represents the data pool which will be loaded, updated and analyzed by the Hilbert Processor.

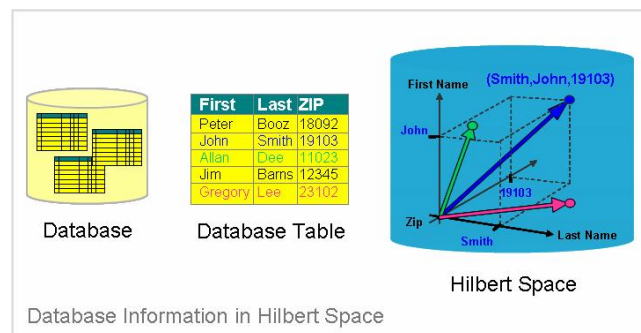
The Hilbert Space

The Hilbert Space holds all input (source) data without modification, and in its original form, for reference purposes. To speed data access, manipulation, storage and analysis, all data pass through a migration phase during which numeric and text data are converted or quantized into unique numbers, to which complex but highly efficient mathematical operations can be applied. Thus even text information can be handled with as much speed as numerical data.



Hilbert Space Organization

By organizing data in this way, a multidimensional data point is established as a spatial vector that represents all of the data in context. Each record from a table is a point in a multi dimensional space and each field of the record is a new dimension in this space – the Hilbert Space. The data is organized naturally and can be accessed easily without requiring a conventional index. Furthermore, multiple vectors can be compared at extremely high speeds.



To retain the table information (this is needed because each column is parsed into a single-word file) the Hilbert Space employs referential files, called MMX-files to connect related groups (a former table). With these files, the Hilbert Engine can quickly move in any direction through a referential network which can even be extended over a network of connected Hilbert Spaces (see the Hilbert Network). One-to-Many, Many-to-One, and Many-to-Many references are all resolved in exactly the same way. In contrast, conventional database engines require a special construct (join tables, which are additional overhead) to deal with Many-to-Many relationships.

Why Hilbert?

We are the only solution provider for ultra high-speed access, manipulation, storage and analysis of large volumes of structured and unstructured data.

Speed, Flexibility and Scalability have been the design criteria of the Hilbert solution.

The Hilbert solutions are offered as embedded Hilbert Engine technology, standard products or industry specific solutions.

Bjorn Gruenwald, CEO and Founder of Hilbert Technology Inc.

High speed data access and analysis through the use of highly efficient mathematical algorithms

Low cost of ownership

Ability to analyze data in ways unthinkable before Hilbert

All data can be loaded, no need for pre-cleansing, deduping or format transformation

No data load restrictions for analysis and reporting

Backup and restore capability for structured and unstructured data

No loss of details in analytics

Conclusion

The conversion of text and numbers to a unique integer representation and the flexibility in set-up and post-set-up environments clearly positions the Hilbert Space far in the forefront of information science, and delivers processing speed and analytical performance unmatched by any conventional solution that uses traditional database approaches. The numerical representation of all data in a multidimensional space allows unmatched performance gains through the use of highly efficient mathematical operations.

Your Advantages

- n High speed data access and analysis through the use of highly efficient mathematical algorithms
 - § Low cost of ownership
 - § Ability to analyze data in ways unthinkable before Hilbert
- n All data can be loaded, no need for pre-cleansing, de-duping or format transformation
 - § No data load restrictions for analysis and reporting
 - § Backup and restore capability for structured and unstructured data
 - § No loss of details in analytics
- n Ad-hoc queries without any re-indexing or performance degradation
 - § Maximum end-user flexibility in creating custom reports and analyses
- n Support of multi-data store processing environments, data can be viewed as an integrated whole
 - § Data consolidation capability with no interruption of operational databases
- n An extremely flexible system that builds and displays user-specified information
 - § Maximum end-user flexibility in creating custom reports and analyses
- n Performance so speedy that it seems independent of volume and query complexity
 - § Ability to analyze data in ways not possible without Hilbert
- n No complex up-front (ETL) process of forcing all data into a common format and common structure (and no loss of data that 'doesn't fit' or is 'too dirty')
 - § Low cost of ownership and rapid time-to-benefit
- n Data representation in Hilbert Space independent of specific reporting requests
 - § Maximum end-user flexibility in creating reports and analyzes

Ad-hoc queries without any re-indexing or performance degradation

Maximum end-user flexibility in creating custom reports and analyses

Support of multi-data store processing environments, data can be viewed as an integrated whole

Data consolidation capability with no interruption of operational databases

An extremely flexible system that builds and displays user-specified information

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About Hilbert

Pennsylvania based Hilbert Technology Inc. is an international provider of business intelligence (BI) solutions for large and medium size enterprises worldwide. The offering is based on the revolutionary, patented Hilbert Engine technology for the ultra high-speed access, manipulation, storage and analysis of large volumes of structured and unstructured data. The Hilbert solutions are offered as embedded Hilbert Engine technology, standard products or industry specific solutions. Organizations in public services, law, government, finance, communications, whole- and retail sales, transportation & tourism and chemical & pharmaceutical can employ Hilbert solutions to gain unparalleled speed in access and analysis over large data volumes.

Notes

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