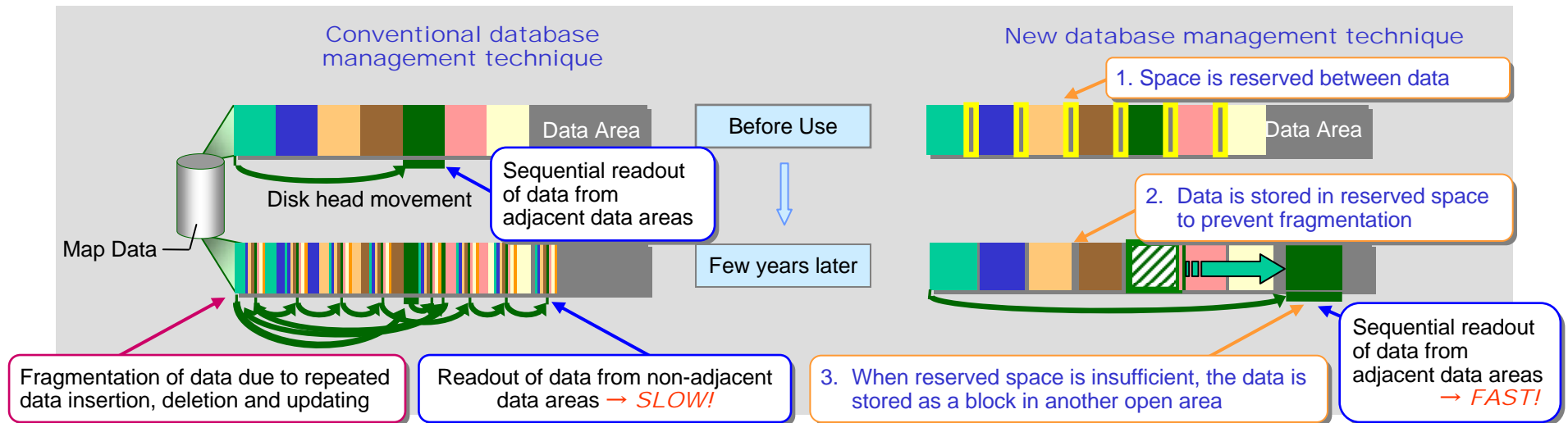


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## HDD car navigation data management technique to prevent search speed loss as a result of data updates

- Tripling the speed of data search after 3 years worth of data updates -



The Central Research Laboratory of Hitachi, Ltd. has developed intelligent database management technology for embedded systems to prevent performance degradation of search functions in hard disk drives (HDD) used in car navigation systems, mobile terminals, etc.

Conventionally, when HDD data is updated in car navigation systems, the new data is stored in a discretionary region on the disk, not necessarily adjacent to related information, resulting in issues such as increased search time due to fragmentation of data. The technique developed, assigns a group ID to the data, and ensures that data with the same group ID is stored in close proximity to one another, enabling the HDD to maintain search speed even with frequent (e.g. weekly) updating. This technique provides a user-friendly database management system for consumer products such as HDD car navigation map data which require regular updating and high-speed search, where a de-fragmentation program as in PCs is impractical.

The technology developed was exhibited at the 9<sup>th</sup> Embedded Systems Expo & Conference in Tokyo (ESEC), held at Tokyo Big Sight, Japan, from 28<sup>th</sup>-30<sup>th</sup> June 2006.