



## Database Engine for Faster Analytics

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**WARF:** P140266US01

[View U.S. Patent No. 9,870,401 in PDF format.](#)

**The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a highly denormalized database structure that enables faster query processing.**

### OVERVIEW

Given the ever increasing amount of “big data” available, new analysis and processing tools are needed to fully leverage it. Big data is challenging to manage, requiring sophisticated mechanisms and parallel processing.

One problem is that many existing systems use algorithms designed for older hardware models. As hardware continues to upgrade, new software methods are needed to keep pace.

### THE INVENTION

UW-Madison researchers have developed “Widetable,” a query processing method that provides a faster and more efficient means for scanning data across multiple tables.

The method accelerates queries by denormalizing multiple tables of a relational database into a smaller number of “wide row” tables using an outer join function. Such denormalization substantially increases the amount of data that must be stored to represent the database. While this might be expected to slow scan rates, speed is gained by eliminating other time-consuming operations.

### APPLICATIONS

- Software package
- Database management

### KEY BENEFITS

- Tenfold query speedup

### THE WARF ADVANTAGE

Since its founding in 1925 as the patenting and licensing organization for the University of Wisconsin-Madison, WARF has been working with business and industry to transform university research into products that benefit society. WARF intellectual property managers and licensing staff members are leaders in the field of university-based technology transfer. They are familiar with the intricacies of patenting, have worked with researchers in relevant disciplines, understand industries and markets, and have negotiated innovative licensing strategies to meet the individual needs of business clients.



- Better scalability
- Can run on many core machines

## STAGE OF DEVELOPMENT

Promising simulations have been conducted using the industry standard benchmark.

## ADDITIONAL INFORMATION

### Related Technologies

[WARF reference number P130164US01 describes a data processing method called Bitweaving that provides a faster means for scanning data contained in a single table.](#)

### Tech Fields

Information Technology - Computing methods

## CONTACT INFORMATION

For current licensing status, please contact Emily Bauer at [emily@warf.org](mailto:emily@warf.org) or 608-960-9842.

