Triodos @ Bank

"It seems *Triodos Bank* has found a *unique* way to stand out in the banking industry by adopting *sustainable principles* in the way they do business and how they *support their customers*."

DBI's Brother-Panther® Helps Triodos Bank Keep Up with Rapid Growth

About Triodos Bank

Triodos Bank is one of the world's leading sustainable banks. They enable money to work for positive social, environmental and cultural change by offering a comprehensive range of banking services that includes saving, investing, asset management, private banking, payment services and lending. Its founders wanted to find a way for people to use money consciously to have a positive impact, and they chose a new and disruptive approach to banking to do it.

While unusual for a banking institution, they believe they have a responsibility to help bridge the gap between economic development and the interests of people and the environment. They try to do this in three different ways – by providing sustainable services, by developing new and innovative products and by engaging in public debate about the benefits and challenges of socially responsible business and sustainable banking. Founded in the Netherlands in 1980, Triodos Bank also has branches in Belgium, Spain, the United Kingdom and Germany – with over 1,000 co-workers servicing 578,000 customers, and a balance sheet reporting EUR 7.7 billion. **www.triodos.com**
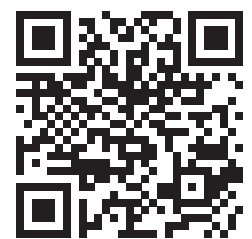
Challenges

Triodos Bank is growing. Rapidly. In the first six months of 2015, their customer base has increased by 48,000 to a total of 578,000 customers. It seems they have found a unique way to stand out in the banking industry by adopting sustainable principles in the way they do business and how they support their customers. They pride themselves in developing new and innovative products, and strive to continuously improve all facets of their business

DBI CONTACT INFO.

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It is always a challenge to keep systems diverse and productive indefinitely, but Triodos has found a tool to help them come as close to it as possible by using DBI's Brother-Panther. In a business that requires no more than six hours of downtime per quarter for major maintenance, every second counts when keeping your database up and performing optimally.

Although Erwin Hattingh, DB2 LUW DBA at Triodos, had been aware of DBI's performance tuning tools since 2011, and knew their tools were exactly what he needed to help him stay ahead of a fast growing company, it was mid-2014 before they purchased and installed DBI's pureFeat Performance Suite®. "We were doing everything manually, the (very) hard way, with a high learning curve. There was a lot of cutting and pasting scripts, and using ad-hoc command scripts found somewhere or invented," recalls Erwin. It was taking too much time, and in an AGILE software development environment, that's just missing the point. Not seeing the problem and/or the solution in time is a big problem.

How DBI Helped

Using Brother-Panther has helped Erwin stay ahead of the fast growth Triodos is experiencing, "It helps us make sure we have met our uptime requirements, almost zero downtime, with predictive response times, keeping bad spikes to minimum." Erwin has also been able to prevent costly purchases of more hardware and software. "We had an average IX Read Efficiency of 1000, rising to 4000+, with buffer pool hit rates of > 99%, essentially burning through CPUs. With the help of DBI we are now back to a more comfortable IX Read Efficiency of 300." While this is still high for some DB2 databases, they now know where to focus their efforts.

Prior to deploying Brother-Panther, Erwin and his team were doing everything manually, copying and pasting scripts - collecting data was no easy task. With Brother-Panther's user friendly UI, the metrics for gathering data were easily defined, and the reports were easy to read. As Erwin puts it, "Even a Junior DBA can have quick insight into everything a DBA needs, all in one tool." Brother-Panther knows what changed, when, and how changes influenced performance. Rich performance analytics and intuitive workflows make performance remediation and tuning a snap!

In addition to quick insight into performance analytics, they love the ability for flagging and backtracking of events inside or outside the database. Recently, Erwin experienced a "Hero" moment with Brother-Panther *outside* their database.

Over the past year, but especially the past few months, Erwin had noticed a gradual overload of their network storage switches and/or SAN storage subsystems. Growing a company can really tax an existing network and SAN, he knew too many new systems were being plugged into the system. With no time and no budget to scale up, they relied on Brother-Panther to help out.

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The symptoms included Erwin noting their DB2 production server had gone from a respectable disk latency of < 6 milliseconds to an alarming rate of > 12 milliseconds. In some cases, it was hitting an even higher rate of > 40 milliseconds. The night batch processing did not like that kind of poor performance. By replacing the filer heads of their NetApp MetroCluster, they were able to see a marked improvement in disk latency. Also, the batch night process running against the database improved to 36% faster. Brother-Panther's simple to read reports demonstrate the performance improvement below.

Additionally, with the help of Brother-Panther, Erwin discovered that only four to six SQL queries were responsible for 40% CPU usage. Now they are able to track this part of their application. Having the ability to fine tune them and/or adjust database design has been very helpful in helping to reduce CPU usage, and not having to purchase costly new hardware. They were alsoable to pinpoint and correct a huge ad-hoc report that was straining the database. "For a sustained 30 minutes or more, all 8 of our CPU cores were running at 100%," noted Erwin. Before Brother-Panther, this issue would have taken him hours, perhaps days, to find and fix.

Results & Future Plans

DBI has award-winning patented tools and certified industry experts to help you reach your performance goals. By deploying DBI's Brother-Panther for DB2 LUW, Triodos achieved immediate increases in performance throughput, was able to meet and beat uptime requirements, while benefiting from predictable response times without damaging response time spikes. Triodos was able to use Brother-Panther both inside and outside the database to reduce resource usage without adding expensive hardware and software.

As their business grows, Triodos understands they have "smarter tools for smarter people" in DBI's Brother-Panther. Backed by the knowledge captured by Brother-Panther, they are able to analyze trends and improve their response times even further.

Triodos looks forward to keeping their system sustainable - providing greater satisfaction, and developing better products and services for new and existing customers.

15 **Second** *Challenge*

*In **15 seconds**, our **patented, award-winning** systems will tell us exactly where the problem is, and if you give us the greenlight, we typically have the problem fixed in **two hours or less**. If we do not bring significant, measurable, and rapid improvement, there is **no charge** for our services and we will donate **$10,000** to the charity of your choice.*

How We Can Help.

Contact DBI today toll free at:
(866) 773-8789
to take the 15 Second Challenge.