Do you feel trapped by your database vendor?

What you can do
to take back control
of your database
(and its associated costs!)

TmaxSoft

With private and hybrid cloud infrastructures now reaching critical mass in adoption, the performance and operational cost of the database tier is receiving more attention. Database management systems (DBMS) like Oracle make up a very large line item on many IT budgets in terms of support and purchase cost. Many users feel locked in once a vendor's solution has been chosen.

There are multiple reasons why Oracle, DB2, MS SQL and other DBMS users might look toward alternatives:

Reliability, scalability, security and performance

Data is critical to business. It is also expanding rapidly. Some users may be disappointed in their selection because of its inability to provide application appropriate failover, accommodate growth, or protect against a variety of data attacks.

Ease of transition

Users may be cautious of a risky porting project from one vendor to another. In the past, automated transition tools may not have been provided or an existing vendor's extensions were not supported in a new environment.

Total cost of ownership

Maintaining existing infrastructure accounts for 57% of IT budgets.[2] Users are often caught in a spiral where support and maintenance prices rise year after year. In addition, existing DBMS licenses might be required based on the server's maximum number of server cores, not the cores actually being used. The result may be a database line item expense disproportionate to the benefits received, using up scarce IT dollars that would be better spent on IT innovation.

Introducing TmaxSoft Tibero, a next-generation database management system.

[1]Oracle | http://investor.oracle.com/financial-news/financial-news-details/2015/Total-Cloud-Revenues-Up-28-but-Would-Have-Been-Up-34-in-Constant-Currency default.aspx

[2]ZDNet | http://www.zdnet.com/article/heres-what-your-tech-budget-is-being-spent-on/

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Innovative reliability and scalability

Data is critical to business today. It is the lifeblood of any organization. Business users demand to have anytime, anywhere access to applications. 99.999% uptime has become the expected across the board, not just reserved for the most mission-critical applications and data.
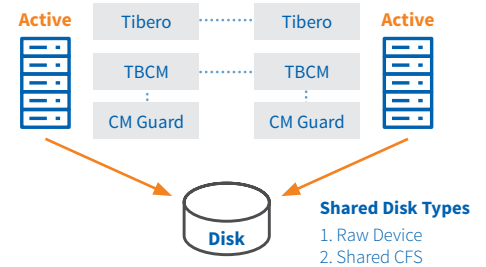
TmaxSoft understands that you want options in how you set up your core data systems. That is why TmaxSoft Tibero provides full support of redundancy and failover options. Tibero systems, using Tibero Active Clusters (TAC), can be set up as Active Active, Active Standby, and Standby Cluster modes.

Tibero can also support very large databases. Many of our use cases routinely involve databases in the petabyte range. Your deployment can scale appreciably without regard for headroom.

Finally, some vendors restrict your usage of their database to certain virtualization products. Tibero does not. It works with most commonly available virtualization and cloud infrastructure solutions.

TAC-Shared disk replication

- Automatic recovery and seamless system operation during a DB or system failure
- High performance by minimizing disk I/O through disk sharing and global cache
- Flexible scalability through horizontal active node expansion

Active — Tibero .... Tibero — **Active**
TBCM .... TBCM
:   :
CM Guard   CM Guard

Disk

Shared Disk Types
1. Raw Device
2. Shared CFS

Key features

Choice of modes

- Active Active, Active Standby, Standby Cluster
- Configure for application importance

Fast failover

- Under 1 minute in most cases
- Use disk cache to minimize data loss
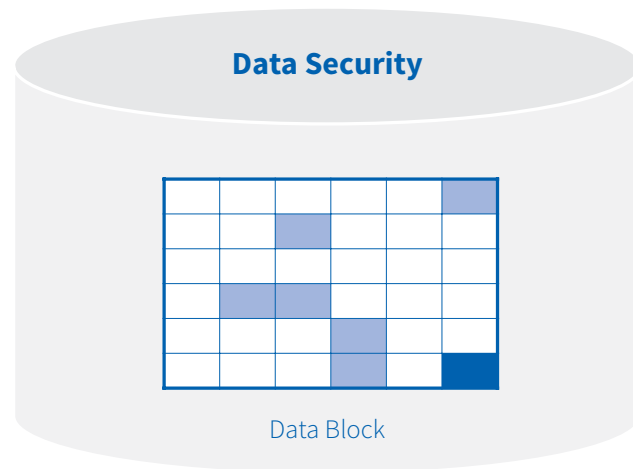
Detects many conditions

- Server down
- DB engine errors
- Public network errors
- Interconnect errors
- Storage cable errors

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Data security

It seems that every week, there is yet another report of a massive data breach. Tibero puts in play ways to keep your data and applications running.

Tibero offers enhanced security over other alternative products. For example, we extended the length of our digital keys, so that even compromising a single piece of data would take about 11 years. In our lab, we compromise the digital signature of the largest database competitor within 2 hours. But we do not stop there. Tibero digitally signs the data location as well, preventing a class of attacks that even competitors do not address. Finally, we embed encryption algorithms within the database code to prevent external calls which can be attacked.

[3]TmaxSoft | http://www.tmaxsoft.com/us_en/tibero_us_en/

Data Security

Data Block

Tibero uses 4 byte digital signature to detect and block any change to data or its location. Oracle uses 2 byte digital signature for change to data only.

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Improved performance

For many data-intensive applications, performance is critical. Whether the project is processing large transactions or analyzing big data sets, speed can make or break the project. In fact, since we now have no shortage of data available, the key going forward is having the compute power to make sense of that data.

Tibero efficiently utilizes resources and optimizes I/O processing. By leveraging separate threads to access data simultaneously, the database can perform better. The database was developed to provide optimal performance when processing large data loads.

Tibero runs extremely well on any environment that you would run an enterprise database on. However, you can realize some additional performance gains when you pair Tibero with Linux running on IBM Power Systems.

IBM Power Systems has some hardware performance attributes that Tibero is able to exploit. POWER8 processors can process 8 threads per core. For a 12-core processor, that equates to 96 simultaneous threads. Contrast that with a comparable Intel Xeon E5-2697m, which can only handle 2 threads per core.

That is a 400% processing advantage. Power Systems also have additional hardware benefits to data applications, including transactional memory and CAPI I/O.[4]

[4] IBM | http://public.dhe.ibm.com/common/ssi/ecm/po/en/pol03213usen/POL03213USEN.PDF

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Ease of transition

Many DB users feel they are locked in to their vendors and there is no way out other than a massive and risky re-write. This simply is not true with TmaxSoft Tibero. The product includes a SQL conversion tool to speed rehosting by automatically translating the 90% of code that is SQL compliant. Application code does not change at all, which preserves your investment in business logic.

But Tibero does not stop there. We also support direct translation for most vendors extensions. For example, Tibero supports Oracle data types, Oracle commands, Oracle SQL extensions, Oracle stored procedures, Oracle schemas, Oracle RAC, and more. In the 140 or so Oracle conversions TmaxSoft has undertaken, most were completed in 4 to 6 weeks. This means the risk of conversion is minimized and the economic benefits are realized sooner.

Tibero supports similar extensions for MS SQL, DB2 and more.

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Reduced total cost of ownership

Vendor lock-in with Oracle and others is costing businesses billions worldwide. The marketplace has been saying that enterprise-class databases are significantly overpriced, especially with the associated ongoing maintenance. That is where Tibero comes in.

For Tibero, we took the complexity out of our licenses. Simply put, our upfront licensing fee is about 50% of our largest competitors' fees. Furthermore, TmaxSoft only charges for the cores actually used in the server, not the total number of cores in that server, critically important for the virtualization component of private and hybrid cloud usage. Altogether, Tibero licensing fees can offer very significant IT savings–and the savings do not stop there.

TmaxSoft charges just 20% for support and maintenance against licensing cost, verses Oracle's 22%. But since Tibero has a lower license cost, Tibero support fees are typically about 60% lower for similar coverage.

Even moving secondary applications to a non-Oracle environment can represent improved service levels and significant savings.

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Conclusion

Businesses grow and are recognized by their innovation. IT departments provide the engine for that innovation. If your IT deliverables are not what they should be because of a lack of funding for innovation, rethink your software infrastructure architecture. Take advantage of opportunities for redeploying with products that lessen your budget pressure, improve security and performance, and deliver results.

Case studies

With its 12-year history, over 1100 installations, and over 140 conversions from Oracle to its credit, Tibero has a proven history of helping customers improve performance and lower costs. Look at what Tibero has done for other customers:

- A major research institute realized a 13.3% lower CPU usage supporting 500 transactions per second
- An international financial company reliably supports 10 million transactions per day with a database size of 5TB
- A well-known insurance company, reduced database maintenance and licensing costs by over 50%

If you are looking to find serious, enterprise-class database alternatives, please call or email us today to schedule a discussion and demo.

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