

TIBERO DataBase

The DBMS of Choice

A unique database management system that can integrate an existing database without modifying existing applications

DATABASE

Tibero

ZetaData

ProSync

DataHub

AnyMiner

TmaxSoft

TIBERO

DataBase

The DBMS of Choice



An innovative architecture **differentiates Tibero** from existing DBMSs.



Improves compatibility with major competitive databases including Oracle.

Why Tibero

Tibero allows cutting-edge companies to develop an efficient IT environment through innovative technologies.

Through the latest architecture and unique functions offered by Tibero 6, enterprises can replace an existing IT environment or operate an integrated IT environment.

1.



Prevents **potential errors** and supports an **efficient architecture**

2.



Guarantees **compatibility** without **modifying applications**

3.



Provides **robust security**

4.



Developed with experience in **massive data processing**

References

Tibero is the DBMS of choice for a wide range of sectors

- Over 600 companies and 1,100 projects in Korea and overseas
- More than 160 TAC* projects (as of Dec 2014)

* TAC(Tibero Active Cluster) : Tibero was the 2nd in the world to apply DB cluster technology. Previously only provided by Oracle RAC.

Representative Clients

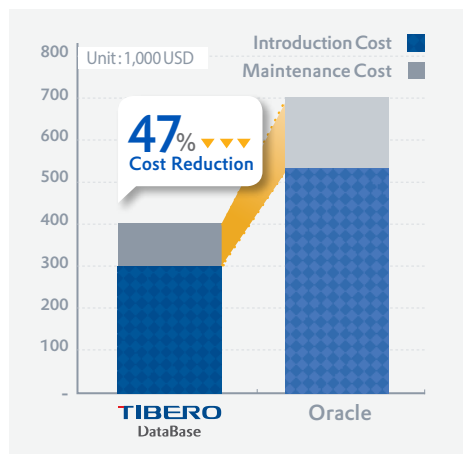
Finance	SHINHAN BANK	KB Financial Group	WOORIBANK	Kyongnam Bank
	Hanwha	SAMSUNG SAMSUNG LIFE INSURANCE Co., Ltd.	NongHyup Property & Casualty Insurance Co., Ltd.	SGI Your Best Credit Partner Seoul Guarantee Insurance
Public & Government	Ministry of National Defense Republic of Korea	KMA Korea Meteorological Administration	K water	국토교통부
	SEOULTECH	Incheon Airport	중앙교육연수원 National Education Training Institute	KOREA POST
Manufacturer	SAMSUNG	LG	HYUNDAI STEEL	HYUNDAI
				seun STEEL
Telco & Media	LG U+	kt	INTERPARK Shopper's Heaven	전저빌드 price KING
				LOTTE CHILSUNG BEVERAGE

Key Benefit

Tibero provides the opportunity to create new business at a reasonable cost

- Reduces the total cost of ownership (TCO) by approximately 50% when compared to other databases.

TCO (for 5 years)



Maintenance Cost

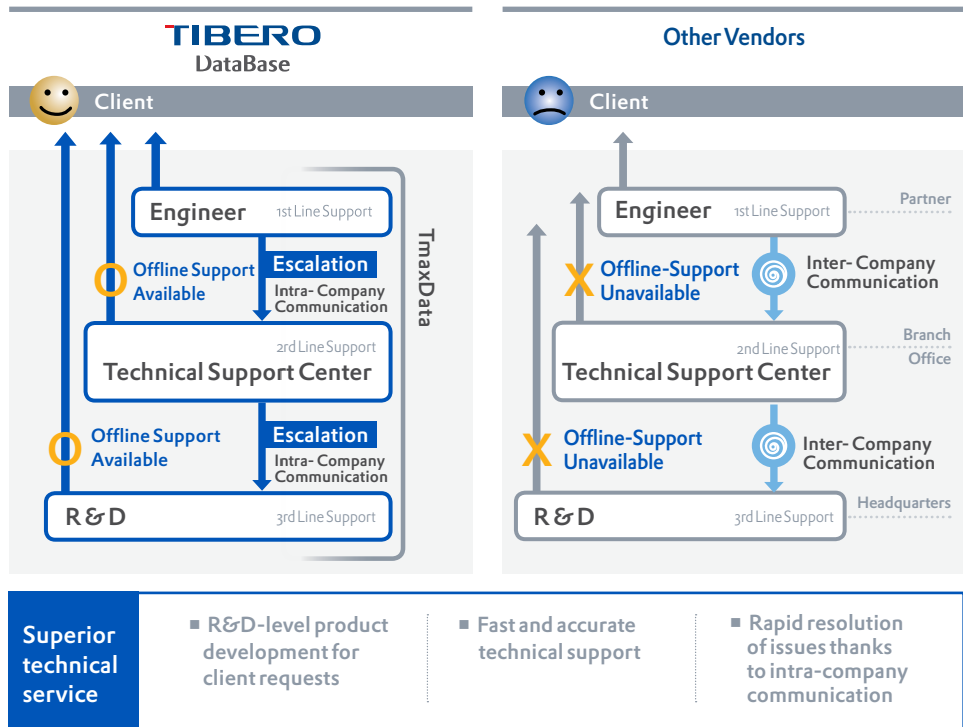


* Based on 3.8 GHz 1 Processor, 8 Cores, List Price

Key Benefit

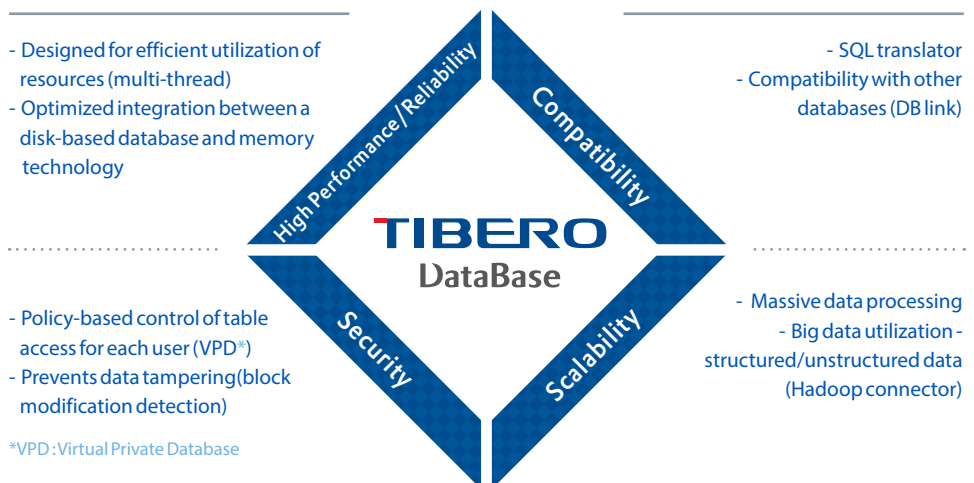
Tibero guarantees superior technical services

- Fixes to client issues are added to the product roadmap.
- TmaxData provides dedicated technical support services.



Tibero 6 - The Most Efficient DBMS


- Provides an efficient architecture for analyses as well as core tasks.
- The ideal choice for large-scale operating environments by providing security, high performance, compatibility, and scalability.



Architecture


Tibero's architecture offers maximum efficiency

- Provides a new but simple conceptual database server architecture.
- Supports reliable and efficient management by preventing potential issues.

Process Integration, Simple Structure 

[Major Processes]


BMP	Tibero Manager Process
AGNT	Agent Process
LSNR	Listener Process
FWP	Foreground Worker Process
BWP	Background Worker Process
TBCM	Tibero Cluster Manager

Improved Communication and Input/Output Performance 

[Major Features]


Hyper Thread Architecture
Dramatically improved performance for processing massive data

DBWR AIO
DB Writer's improved asynchronous input/output

Improved Memory Utilization 

Shared Memory Management
Variable expansion support for shared memory

Improved Memory Allocation
Error prevention and improved management

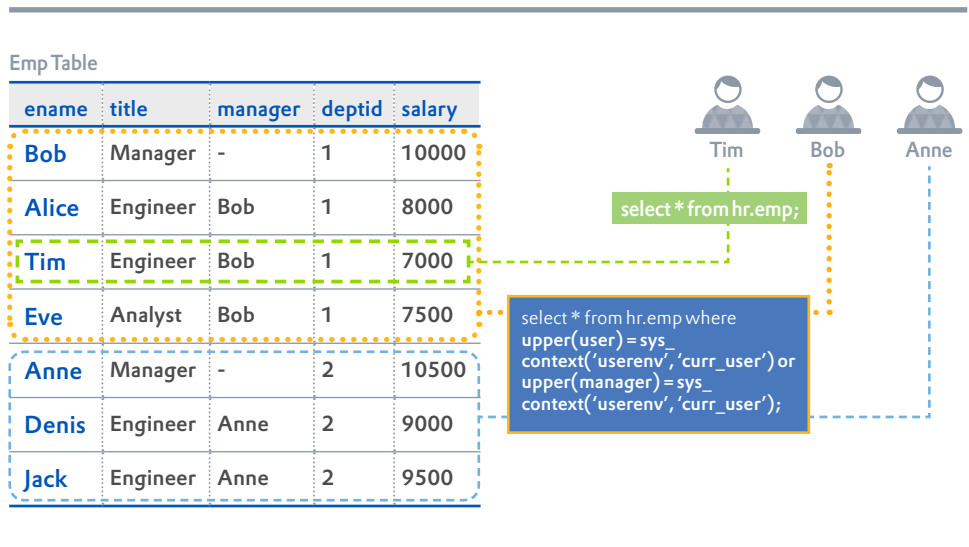
SQL Contention Minimization 

Data Dictionary Lock Free
DML/DDL contention minimization

Robust Security

Tibero provides robust security

- Table row access control (by user)
- Fine grained audit, encrypted data tampering prevention, and country-specific encryption algorithms support



Tibero Manager

Tibero provides a monitoring and management tool for operations and management

- Monitors transaction processing and resource status in real time.
- Provides an embedded GUI-based management tool (backup, recovery, security, schema management, etc.).



Massive Data Processing

Tibero was developed with massive data processing in mind.

Technology	New architecture Efficient processing of massive data
	TAC and TAS Availability and scalability in large-scale database environment
	Various partitioning, advanced parallel processing technology Reliable and efficient operations for massive data
	Hadoop connector support for big data (HDFS, Hbase support) Integrated analysis for semi-structured data support
	TPR*, ASH* support VLDB performance analysis support

Cases	AA federation 40TB
	Large-scale communication company's NMS 30TB
	Large-scale financial services company 30TB
	BB public institution 86TB (to be increased up to 1.4 PB)
	Academic Administration for the National University of Science and Technology, Yonsei University Course registration system successfully completed.

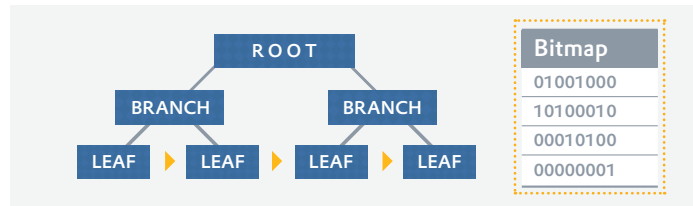
DW & OLAP Features

Tibero provides specialized features commonly used by DW

- Uses bitmap indexes to save storage space and improve performance.
- Supports interval partitions, eliminating the need to create partitions in advance by a DBA.

Bitmap Index

Saves a range value as a bitmap.
Appropriate for an OLAP environment in which many duplicate values exist.



Interval Partition

Automatically creates a partition when data is inserted into a database.
E.g., Automatically creates hour/day/month/year partitions.

Star Transformation*

Optimizes a join query that includes a large volume of tables.
* Supports transformation that is specialized for the star schema, which is commonly used by DW.

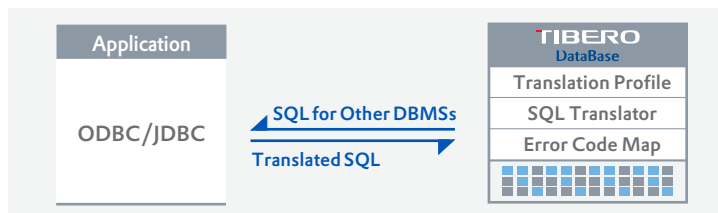
Compatibility with Other DBMSs

Tibero provides compatibility without modifying applications

- An existing database can be migrated or used concurrently with Tibero.
- Improved compatibility with Windows.

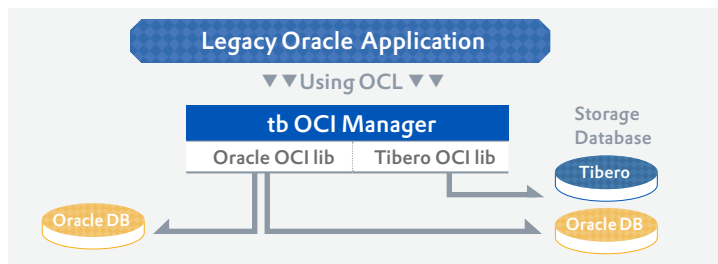
Existing SQL Automatic Translation

Applications written for other DBMSs can be used in Tibero without modification.



Oracle Compatibility

Tibero can be used for the existing applications that use Oracle OCI*
* OCI : A non-standard internal interface used only by Oracle.



Windows Compatibility

ODP.NET compatibility



APAC

I TmaxSoft Korea

TmaxSoft, Co. Ltd. Korea HQ / R&D Center

5, Hwangsaeul-ro 329 beon-gil,
Bundang-gu, Seongnam-si,
South Korea, 463-824

TEL : +82-31-8018-1708
FAX : +82-31-8018-1710
Email : info@tmax.co.kr

I TmaxSoft Singapore

TmaxSoft Singapore Pte. Ltd.

430 Lorong 6, Toa Payoh #10-02,
OrangeTee Building. Singapore
319402

TEL : +65-6259-7223
FAX : +65-6258-7112
Email : info.sg@tmaxsoft.com

I TmaxSoft Japan

TmaxSoft Japan co., Ltd.

5F Sanko Bldg, 3-12-16 Mita,
Minato-Ku, Tokyo, 108-0073 Japan

TEL : +81-3-5765-2550
FAX : +81-3-5765-2567
Email : info@tmaxsoft.co.jp

I TmaxSoft India

TmaxSoft Technologies, Ltd. India

Embassy Tech Square 1st Floor Tower
Delta, Block B Kadubeesanahalli
Village Vartur Hobli Bangalore – 560
103 India

TEL : +9-1806-743-1336
Email : info.India@tmaxsoft.com

I TmaxSoft China

Beijing TmaxSoft System Software Co., Ltd.

Room 103, No.2 Huizhong Building,
Seven Street Shangdi, Haidian
District, Beijing, 100085, P.R.China

TEL : +86-10-6298-8827
Email : info@tmaxsoft.com.cn

North & South America

I TmaxSoft USA – HQ

TmaxSoft Inc.

101 N. Wacker Drive Suite 2014
Chicago IL 60606

TEL : +1-312-525-8330
Email : info@tmaxsoft.com

I TmaxSoft Brazil

Tmax Brasil Sistemas E Servico Ltda.

Av. Copacabana, 177, sala 32~35
Empresarial 18 do Forte Alphaville
Barueri, Sao Paulo, 06472-001, Brazil

TEL : +44-(0)20-8481-3776
FAX : +44-203-092-4681
Email : info.bra@tmaxsoft.com

I TmaxSoft USA

TmaxSoft Inc.

560 Sylvan Avenue Englewood Cliffs,
New Jersey NJ 07632

TEL : +1-201-576-8266
Email : info@tmaxsoft.com

I TmaxSoft Canada

TmaxSoft Canada Ltd.

2425 Matheson Blvd East 8th floor
Unit 824 Mississauga, ON, L4W 5K4

TEL : +1-905-361-2888
Email : info.canada@tmaxsoft.com

EMEA

I TmaxSoft Russia

Tmax Rus L.L.C.

Grand Setun Plaza, No A204
Gorbunova st.2, Moscow, 121596

TEL : +7(495)970-01-35
Email : info.rus@tmaxsoft.com

I TmaxSoft UK

TmaxSoft UK Ltd.

Surrey House, Suite 221, 34 Eden
Street, Kingston-Upon-Thames,
KT1 1ER United Kingdom

TEL : +44-(0)20-8481-3776
FAX : +44-203-092-4681
Email : info.uk@tmaxsoft.com