SysMasterDB 8 Introduction

TMAXTibero

Contents

Chapter 1

Introduction

SysMasterDB Introduction

TMAXTibero

Optimized Monitoring Solution for Tibero Performance Management

Provides real-time database monitoring, operational data collection, diagnostics, analysis, and **performance management features to ensure stable system operations**

Dashboard | Real-time Monitoring | Analysis

- ✓ **A monitoring tool that efficiently manages both system availability and performance**
- ✓ **With a proactive monitoring approach**, it detects potential issues in advance and clearly identifies application bottlenecks
- ✓ It also offers **a wide range of performance data and analytical reports**

SysMasterDB Key Features

TMAXTibero

Provides accurate and detailed monitoring and analysis metrics from an operator's perspective

01

Convenient
Web-based solution

Accessible
anytime, anywhere

02

User-customized
Integrated dashboard

Customizable by selecting desired
instances and metrics

03

Real-time trend analysis
at second-level intervals

Enables proactive issue prediction
and prevention
at 1-second, 0.001-second intervals

04

Alert configuration
for critical issues

Allows users to set custom
performance metrics and threshold
values for alerts

05

Easy and Smart
user management

Role-based access control for user- and
department-specific authorization

06

Provides integrated
performance reports

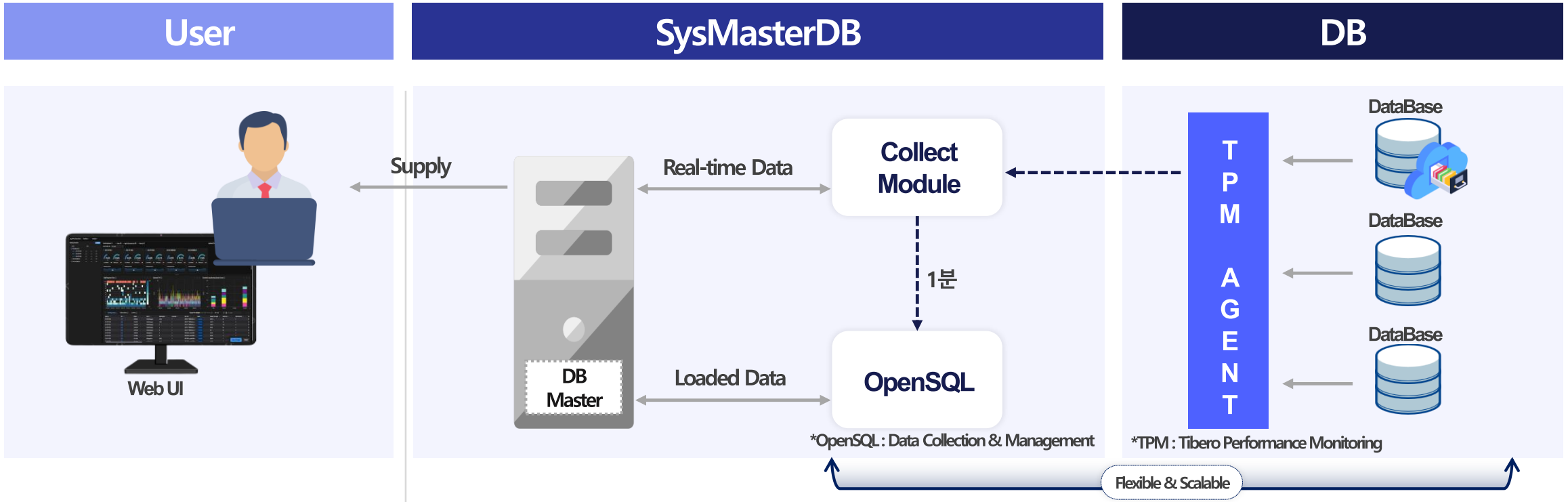
Offers long-term, mid-term, and
short-term performance analysis
reports

SysMasterDB Architectures

TMAXTibero

Optimized Large-Scale System Monitoring Architecture for Data Performance Management

Scalable Architecture Design That Expands “Collect Module + OpenSQL” with the Growth of Control Databases



✓ **Web UI**
DB Management/Control and Monitoring via Web GUI

✓ **DB Master**
Generates UI Information from Real-Time Collected/Loaded Data

✓ **Collect Module**
Stores Information Received from TPM and Directly Collected Data in OpenSQL

✓ **TPM Agent**
Real-Time Precision Analysis via Second-Level Data Collection

SysMasterDB Key References

TMAXTibero

Expanding Deployment as a Tibero-Based DBMS Monitoring System

SysMasterDB

Key References

Large-Scale Case with a Total of 500 Cores

Proven Performance and Reliability as a Database Monitoring System

High-Volume Transaction Monitoring

Proven Performance in Reliably Monitoring High-Volume Transactions in Entry/Exit Systems During Peak Times

kt
posco FUTURE M
SAMSUNG
iMBank
SEOULTECH
CHUNGNAM NATIONAL UNIVERSITY
KERIS
Ministry of Foreign Affairs
KB
삼육서울병원
KL-Net
HYUNDAI

As of July 2025

SysMasterDB Competitor Comparison

TMAXTibero

Supports HA Monitoring & DB Performance Metrics Collection

Features		SysMasterDB 8	MaxGauge 5	Sherpa Soft 4
Dashboard	Dashboard and Custom Screens	O	O	O
Real-Time Monitoring	Instance Monitoring	O	O	O
	Transaction Monitoring	O	O	O
	SQL Monitoring	O	O	O
	Session Monitoring	O	O	O
	LOCK Monitoring	O	O	O
	Usage Monitoring	O	△	O
	HA Monitoring	TAC, TSC Monitoring Supported	TSC Unsupported	TSC Unsupported
Analysis	Multi-SQL Analysis and Reporting	O	O	O
	Top N Performance	O	O	O
	Extracting Overload-Causing SQL	O	O	O
	Report Provision	O	O	O
Management	Account and Permission Management	O	O	O
	Alert Setting	O	O	O

Chapter 2

Key Features

SysMasterDB Key Features

TMAXTibero

Provides Real-Time Detailed DB Performance Monitoring and Analysis via an Intuitive Dashboard

Dashboard

- Provides integrated monitoring for multiple managed DB instances
- Card-based visualization for at-a-glance overview
- **Customizable to meet user-specific requirements**

Realtime

- Real-time viewing of managed DB status and performance metrics
- Customizable layout: choose performance metrics, collection intervals, and chart types

Analysis

- Provides historical analysis of managed DB status and performance over a given period
- **Identifies and analyzes points of occurrence when performance or failure issues arise**

Setting

- **Admin and user account management**
- **Alert configuration management**
- Screen theme settings (Dark/Light)

SysMasterDB Key Features

TMAXTibero

Dashboard | Realtime | Analysis | Settings

Monitor the status of all managed DBs at a glance

1 Instance Overview

- View all monitored instances in a single, consolidated list
- Check DB Down, Alert, and Error statuses along with history

2 Card View

- View key instance metrics in a card-based layout
- Customize card type (compact/detailed/expanded) and display order

3 Custom Chart

- Monitor overall system performance with selectable performance metrics
- Clicking a card allows monitoring of the corresponding instance's status

4 Session/Lock Chart

- View all active sessions and lock statuses

SysMasterDB Key Features

TMAXTibero

Dashboard | **Realtime** | Analysis | Settings

Real-time monitoring of instances, sessions, OS, and high availability (HA)

1 Main Monitoring

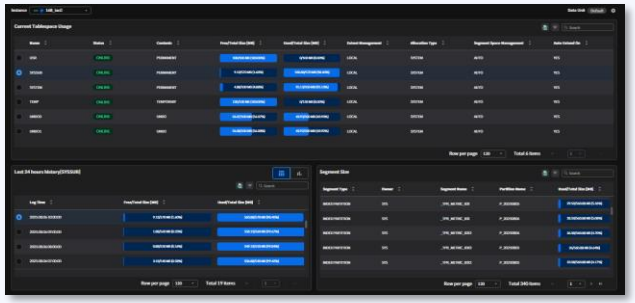
✓ **Instance Monitoring**
- Metrics/Graphs Customizing

✓ **Session Monitoring**

✓ **Server Monitoring**

Monitor OS, process resource usage

2 Usage Monitoring



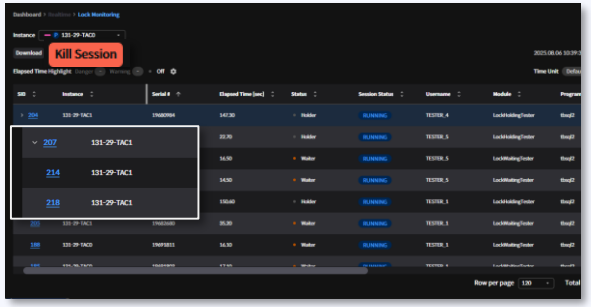
✓ **Tablespace Usage**

✓ **File Usage**

✓ **Temp Usage**

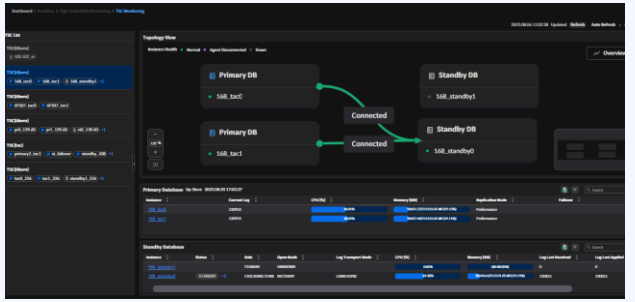
✓ **Undo Usage**

3 Lock Monitoring



✓ **Lock Monitoring**
- Provides lock tree visualization
- View session and SQL details
- Supports session termination

4 High Availability Monitoring



✓ **TSC* Monitoring**
- Supports topology view
- View inter-node connections, individual node status, and key metrics

*TSC: Tibero Standby Cluster, 독립디스크 기반의 이중화 구성

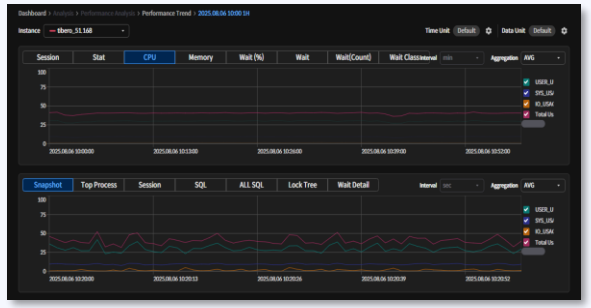
SysMasterDB Key Features

TMAXTibero

Dashboard | Realtime | **Analysis** | Settings

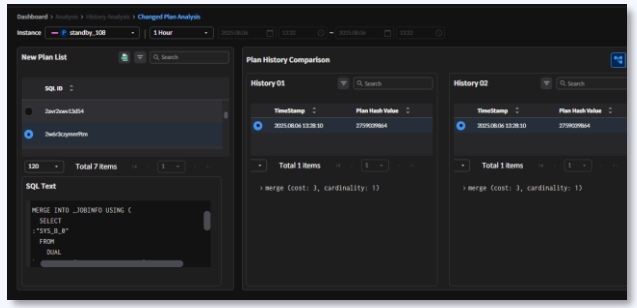
Provides historical performance, usage metrics, and reports

1 Performance Analysis



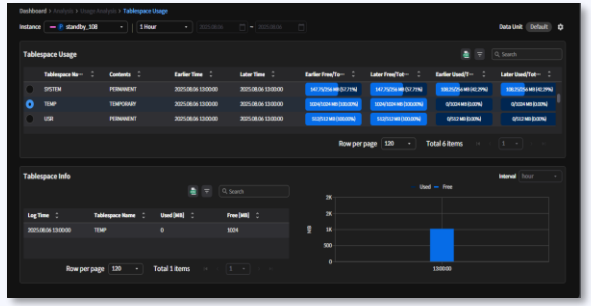
- ✓ **Performance Trend**
  - Visualize CPU, memory, session, and wait status
- ✓ **Top N Performance**
- ✓ **Heatmap Trend**

2 History Analysis



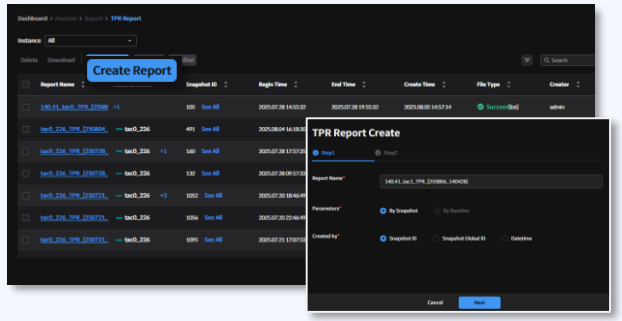
- ✓ **Changed Plan Analysis**
  - Provides comparative analysis charts of SQL plan changes
- ✓ **All Session Flow**
- ✓ **Search SQL Text**
- ✓ **Alert Event Analysis**
- ✓ **Invalid Object**

3 Usage Analysis



- ✓ **Tablespace Usage**
- ✓ **Filesystem Usage**
- ✓ **Segment Usage**
- ✓ **Temp Usage**
- ✓ **Undo Usage**

4 Report



- ✓ **TPR* Report**
  - Export performance analysis reports in HTML or TXT format
- ✓ **ASH** Report**
  - Export per-second active session status in HTML or TXT

*TPR : Tibero Performance Repository / **ASH : Active Session History

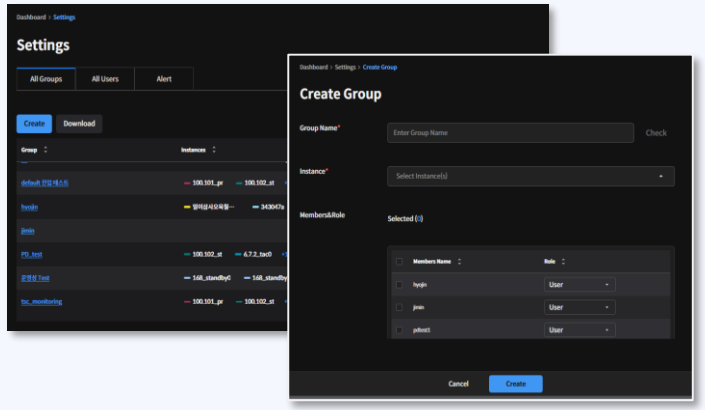
SysMasterDB Key Features

TMAXTibero

Dashboard | Realtime | Analysis | **Settings**

Centralized management of groups, users, alerts, and other essential SysMasterDB information

1 Group Management

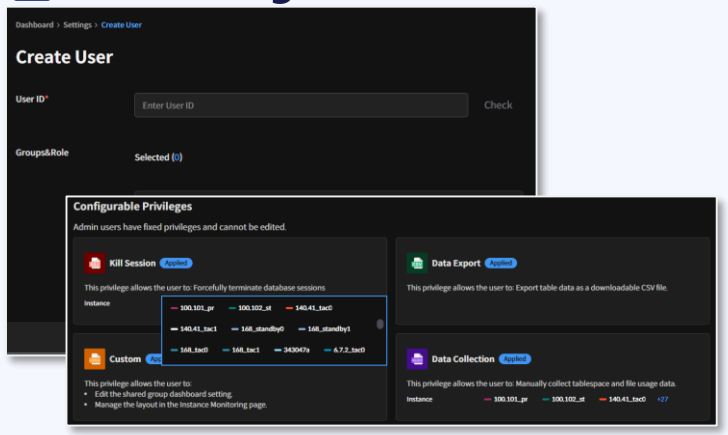


✓ **Create user group**

1) Select accessible instances for each group
2) Select users to assign to a group
3) Assign permissions per user for convenient group management

※ Group management accessible only by Super Admin (not Admin or User)

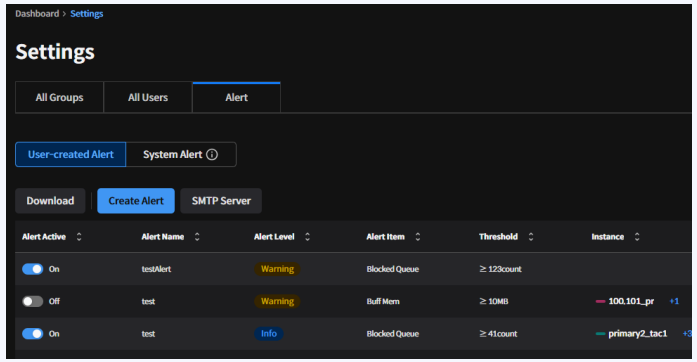
2 User Management



✓ **Manage users and roles**

- Super Admin can create, modify, and delete any user, and assign privileges per user
  (*Kill session / Custom / Data Export / Data Collection)
- Admin can create, modify, and change privileges only for users within the same group

3 Alert Management



✓ **Create and manage alerts**

- Users can create, modify, copy, delete, and toggle alerts for themselves or within their group

✓ **Modify system alerts and toggle On/Off**

- System alerts (DB Down) automatically generated by SysMasterDB

Chapter 3

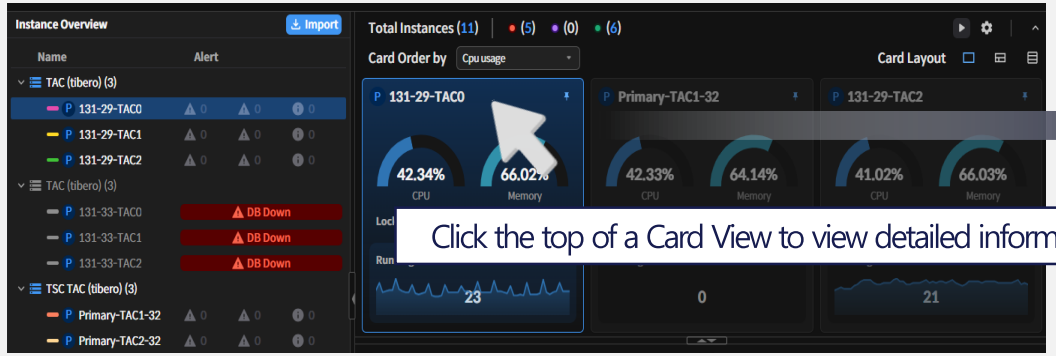
Use-case

SysMasterDB Use-case (1/3)

TMAXTibero

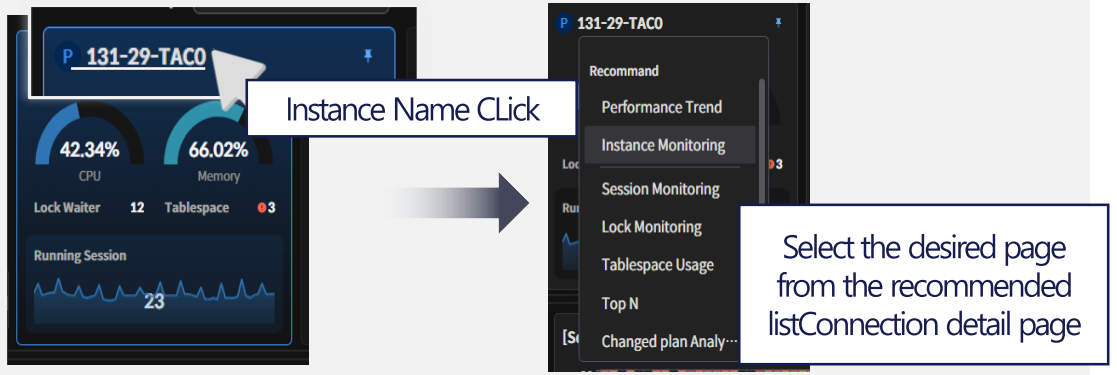
✓ CPU overload Management

1 Identify high-CPU instances in Card View



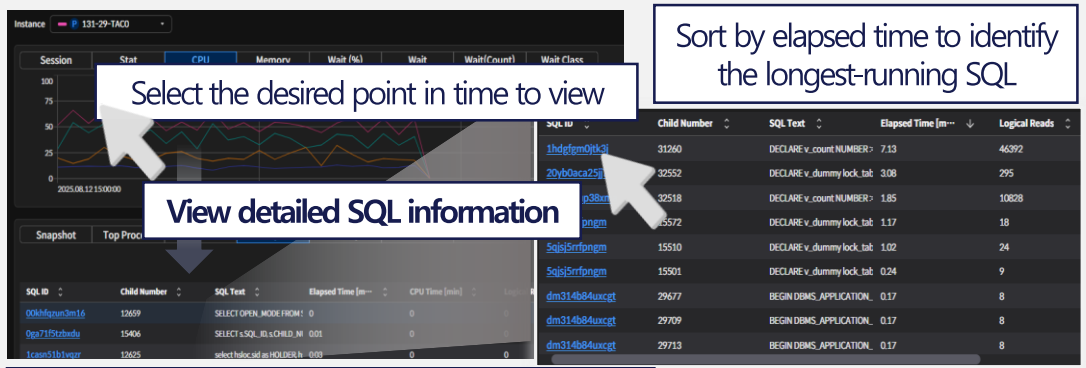
Click the top of a Card View to view detailed information

2 Navigate to the detailed analysis page of the selected instance



Select the desired page from the recommended listConnection detail page

3 Performance Trend – Locate active sessions and queries



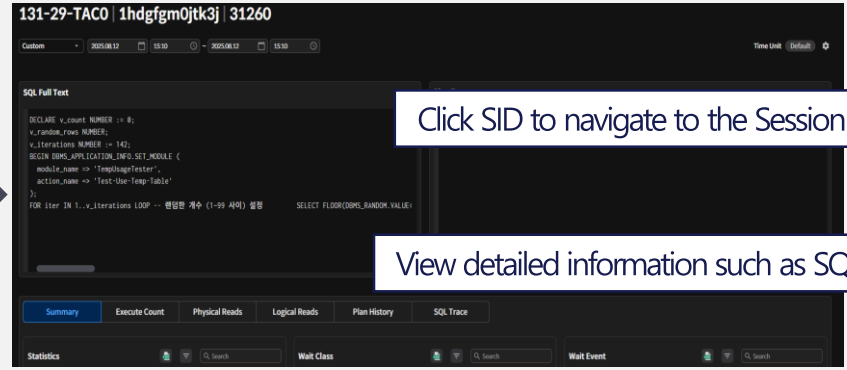
Select the desired point in time to view

Sort by elapsed time to identify the longest-running SQL

View detailed SQL information

※ View of Process, Session, SQL, Lock, and Wait information

4 View detailed SQL queries



Click SID to navigate to the Session and SQL details page

View detailed information such as SQL full text and plan tree

SysMasterDB Use-case (2/3)

TMAXTibero

✓ Identify long-running SQL

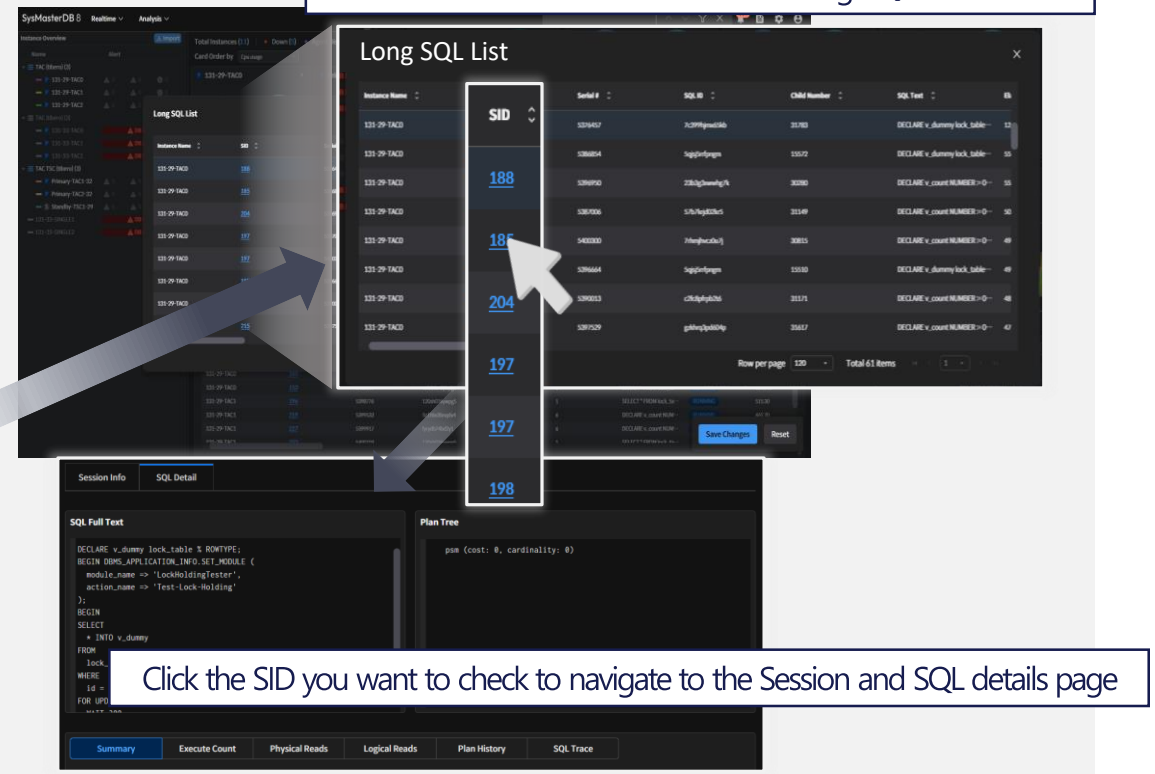
❶ Check SQL response time for a specific instance

Select an instance (via Card View or Instance Overview)

Click the desired section on the [SQL] Response Time graph to view

❷ View details of SQL with high elapsed time from the list

View detailed information from the Long SQL List screen



Click the SID you want to check to navigate to the Session and SQL details page

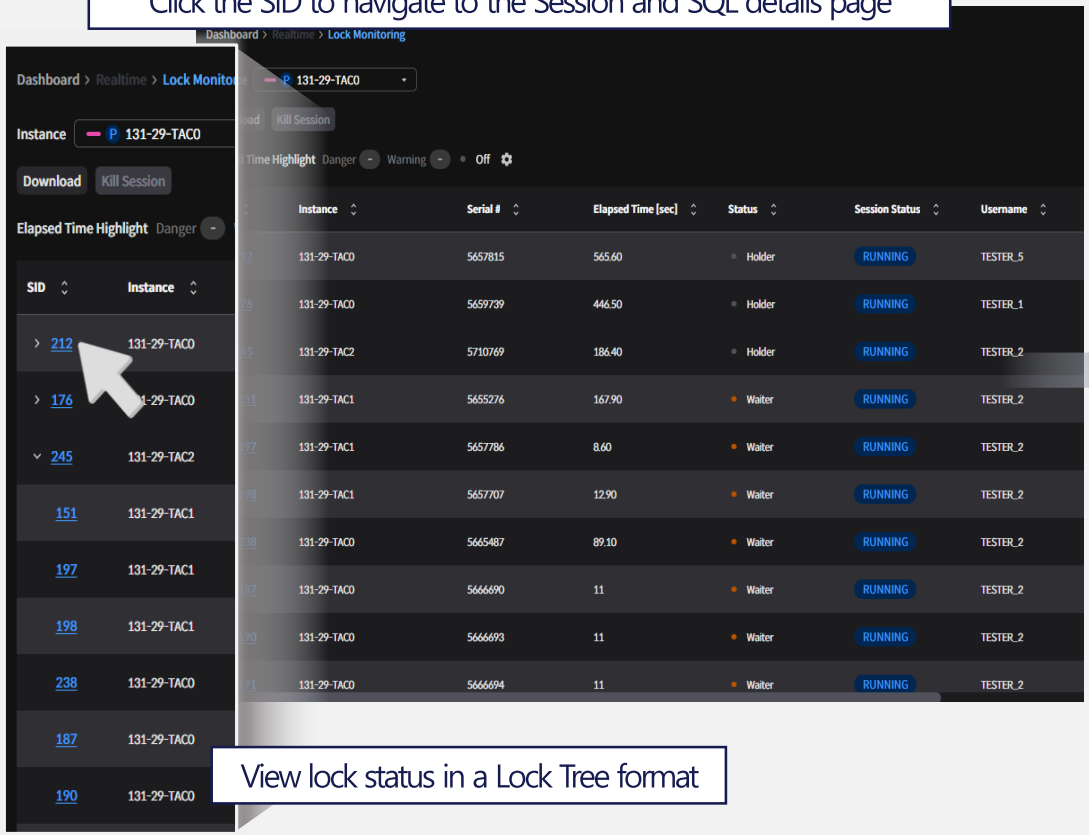
SysMasterDB Use-case (3/3)

TMAXTibero

✓ Identify and manage locked sessions

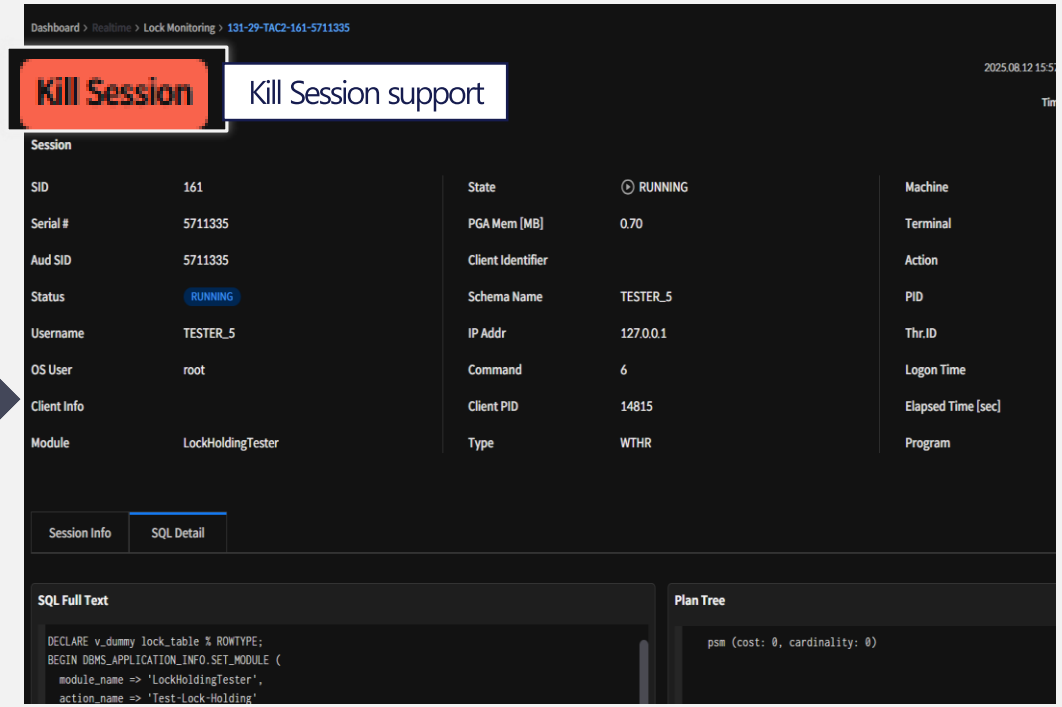
1 Check on the Lock Monitoring page

Click the SID to navigate to the Session and SQL details page



View lock status in a Lock Tree format

2 Identify blocking objects and SQL text to take action



View blocking objects and SQL text on the SQL Details page

Chapter 4

Why SysMasterDB

Why SysMasterDB?

TMAXTibero

Enable stable and efficient system operation by maximizing operational and DBA efficiency

01 Convenience

- ✓ **Dashboard Customizing**
- ✓ **One-click access to detailed metrics from the dashboard**
- ✓ **Proactive DB response and efficient management through alert functionality**

02 Stability

- ✓ **Proprietary solution**
- ✓ Proactive DB response and efficient management through alert functionality
- ✓ **HA(TAC, TSC) Monitoring Support**
- ✓ Provide uninterrupted service during system failures

03 Cost-effectiveness

- ✓ Reduce implementation and maintenance costs compared to competitors
- ✓ Reduce time and cost for analyzing DB resources

Thank You

TMAXTibero

#Appendix – System Requirements

TMAXTibero

Supported Platforms and Operating Systems

Category	Product and Version
OS	• **Linux:** - CentOS 7 (64-bit) - Red Hat Enterprise Linux 7, 8.1~8.5, 8.10 (64-bit) - Oracle Linux Server release 9.4 • **Windows:** - Windows 10 (64-bit) - Windows Server 2022 (64-bit) • **Operating systems that support installation of the platforms and software requirements below**
Monitoring Database	• **Tibero 6 FixSet07 or higher** • **Tibero 7**
Monitoring Database OS	• **Linux:** - CentOS 7 (64-bit) - Red Hat Enterprise Linux 7, 8.1~8.6 (64-bit) - Oracle Linux 8.6 (64-bit) - Rocky Linux 8.6 (64-bit) - ProLinux 7.5 (64-bit) - AIX 7.2 (64-bit) • **[Reference]** - C++11-compliant compiler - gcc (GCC) 4.8.5 20150623 (Red Hat 4.8.5-44) 이상 - GLIBCXX_3.4.19 or higher - GLIBC_2.17 or higher
Repository Database	• **OpenSQL**

#별첨 - 시스템 요구사항

TMAXTibero

Hardware and software (choose and install one among Docker Compose, Kubernetes, or Podman-Compose)"

Category			Product and Version
H/W	Platform		Operating systems supporting installation of version 1.2.2 software: Linux 64-bit / Windows 64-bit
	CPU		8 core
	RAM		32GB
	Storage		Minimum 30 GB (additional 50 GB per day required based on the data retention period [RETENTION_DAY])
	Web Browser		Chrome (Latest version recommended)
S/W	Essential	Docker	v20.10 or higher
	Select one	Docker-compose	v2.3.4 or higher
		Kubernetes	v1.17 or higher
		Podman	Supports Linux Red Hat Enterprise Linux 8 or later with Linux Kernel 4.18, version v4.4.1 or higher
		Podman-Compose	v1.0.6 or higher

* Specification assumes a total of 600 active sessions (60 sessions per instance × 10 instances)