MAXGAUGE for SQL Server v4.5

PRODUCT DOCUMENTATION

Product Overview

Monitoring Methodology

MaxGauge Structure

Performance Indicators

Installation Environment

Database Performance Monitoring SW

Database Real-Time Monitoring, Operation Information Collection

Diagnosis, Analysis and Performance Tuning

Performance Management

Monitoring

Real-Time Diagnosis

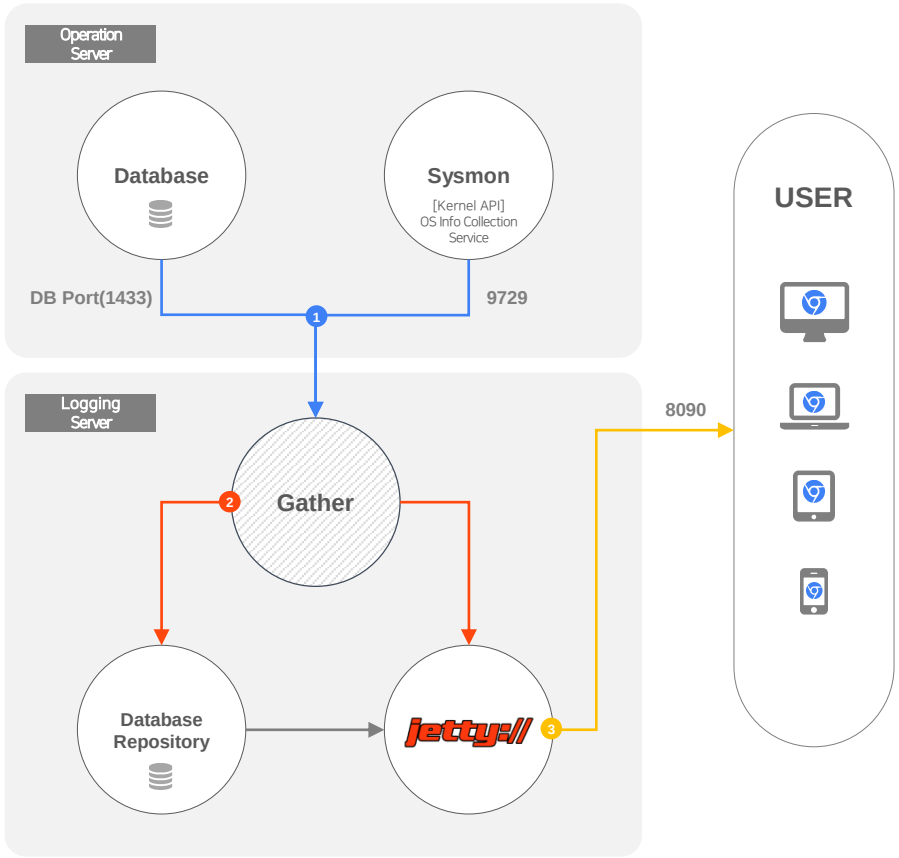
Analysis

Tuning

Top-Down Approach

[Server Level → Database Level → Session Level → SQL Level] Intuitive Access UI

MaxGauge for SQL Structure Diagram



①

Data Gather collects real-time information as follows: DB related information through SQL communication, and OS related information through the "OS Information Collection Service" and by socket communication.

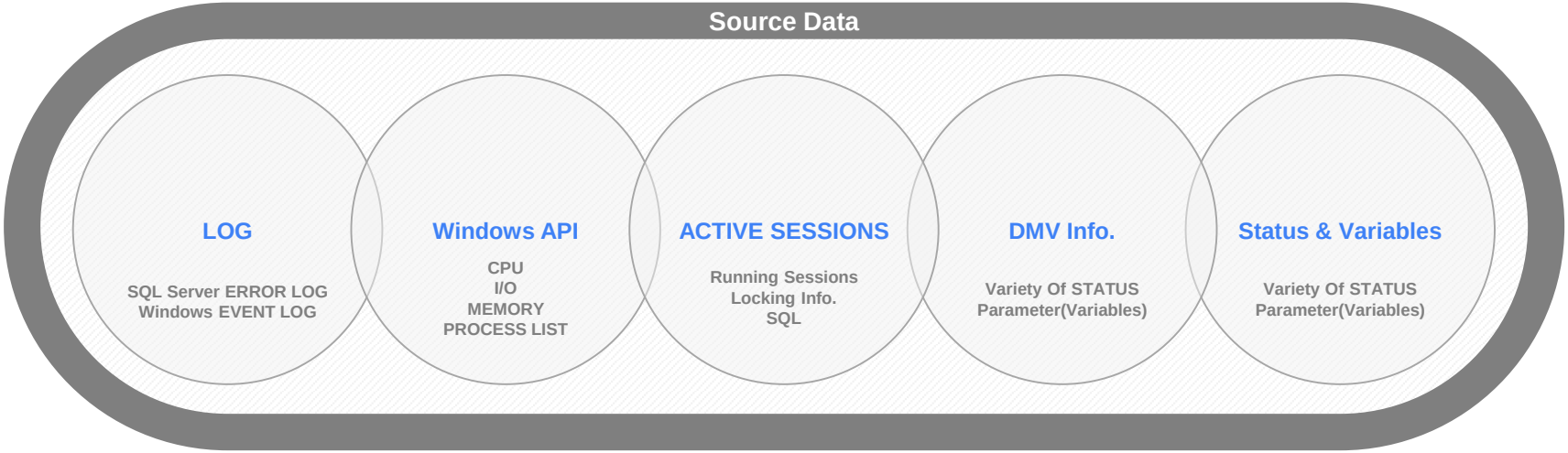
②

The information collected by Data Gather is sent to the browser and saved to the Repository Database.

③

Lookup real-time data through WAS and execute monitoring.
Lookup Repository Database's data through WAS and execute post-analysis.

MaxGauge for SQL Performance Collection Data



DB Server / Repository / Client Installation Environment

DB Server

· System

- OS Platform : Windows Server 6.0(2008) or Higher
- SQL Server Version : 2008 or Higher

· Network

- SQL Server Communication Default Configuration : 1433 (TCP Port changeable)
- *SYSMON Communication Default Configuration : 9729 (TCP Port changeable)

***SYSMON**

An agent service which collects the OS information of the monitoring target database. Below 1% CPU usage based on 4 CORES. Approximately 10 MB of memory usage.

Repository

· System

- OS Platform : Windows Server 2008R2 or Higher
- Log Collection SQL Server Version : 2008 or Higher (SQL Server 2012 or Higher Recommended)

· Hardware

- CPU : 2 CORE (Minimum) / 4 CORE (Recommended)
- RAM : 4 GB (Minimum) / 8 GB (Recommended)
- Disk : 20 GB (For 1 month, Approximately 500 MB logging data per server per day)

· Network

Log Collection SQL Server Communication Default Configuration : 1433 (TCP Port changeable)
WAS Communication Default Configuration : 8090 (HTTP and WebSocket changeable)

Client

· System

- OS Platform : Windows 8 or Higher
- Chrome Browser : 44.x or Higher (50.x or Higher Recommended)
- Graphics : 1024*768 (1920*1200 Recommended)

· Hardware

- CPU : 2 CORE or More
- RAM : 4 GB or More
- Graphics Card (GPU) Use Recommended

· Network

- WAS Communication Default Configuration : 8090(HTTP and WebSocket changeable)

Main Function

Real-time Monitoring

Performance Analysis

Additional Functions

Check **Current Server Status** Through Alarms and Events

Check Status Details of a Single Server

Total CPU usage and SQL Server CPU, Active Session, Lock

Distribution of Execution Time of Active Session

Active Sessions List

Compare past performance data with The present performance data

Active Sessions X-View

Real-time Status of Multiple Servers

Current CPU, Active Sessions

Instance list

Active Sessions Elapsed Time Chart

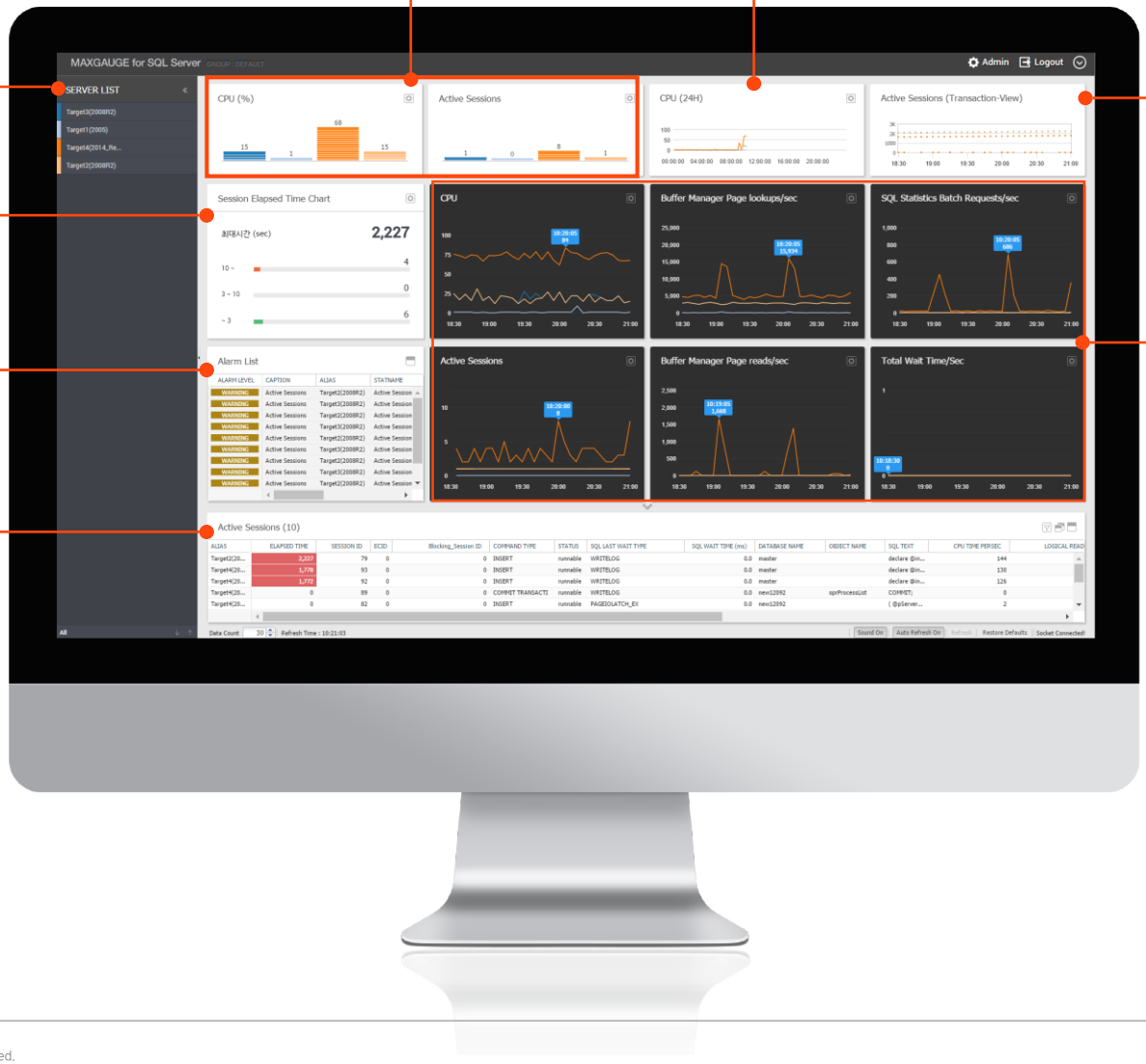
Alarm List

Active Sessions List

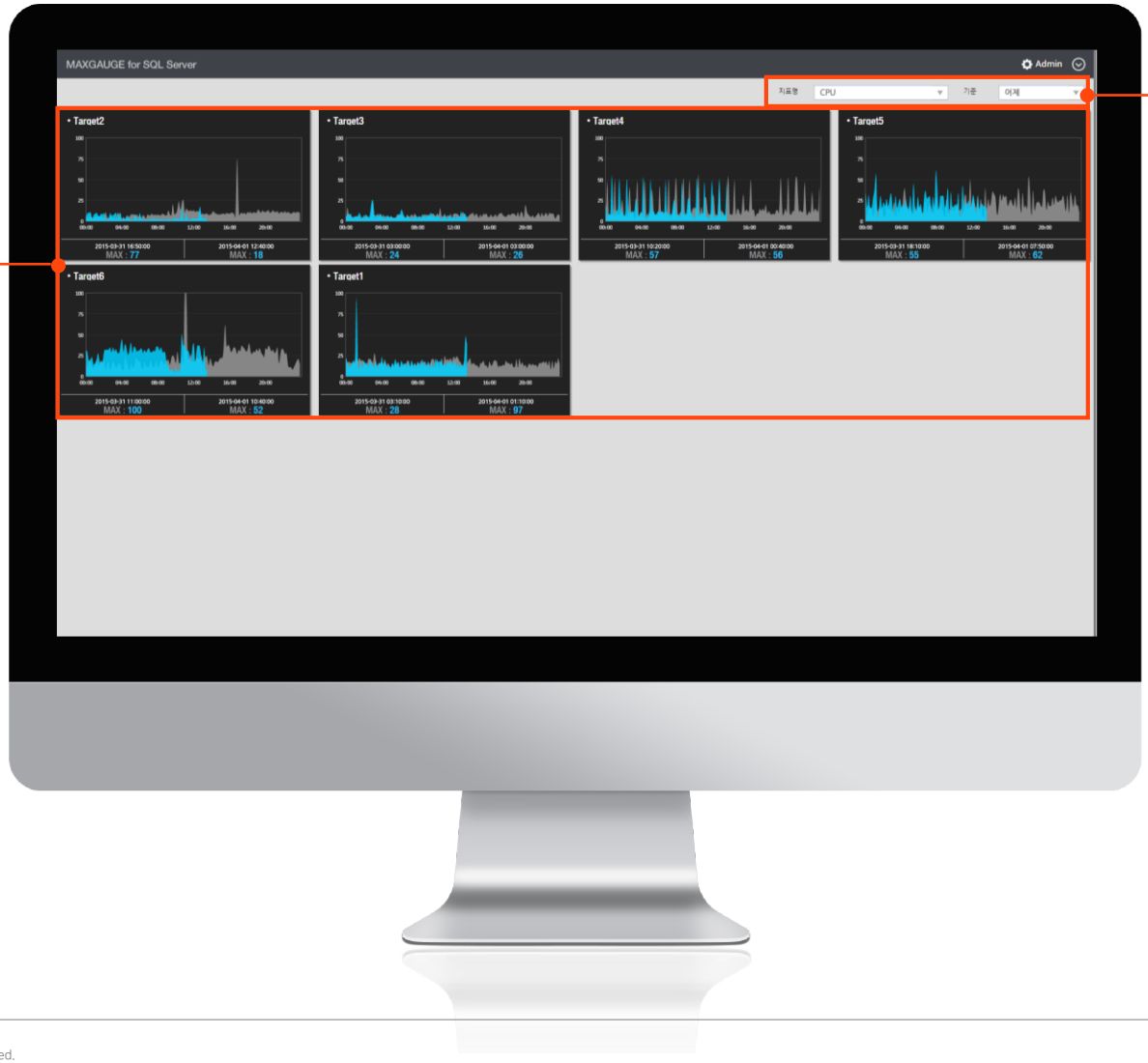
CPU Trends

Active Sessions X-View

Graph of 6 main indicators which can be customized



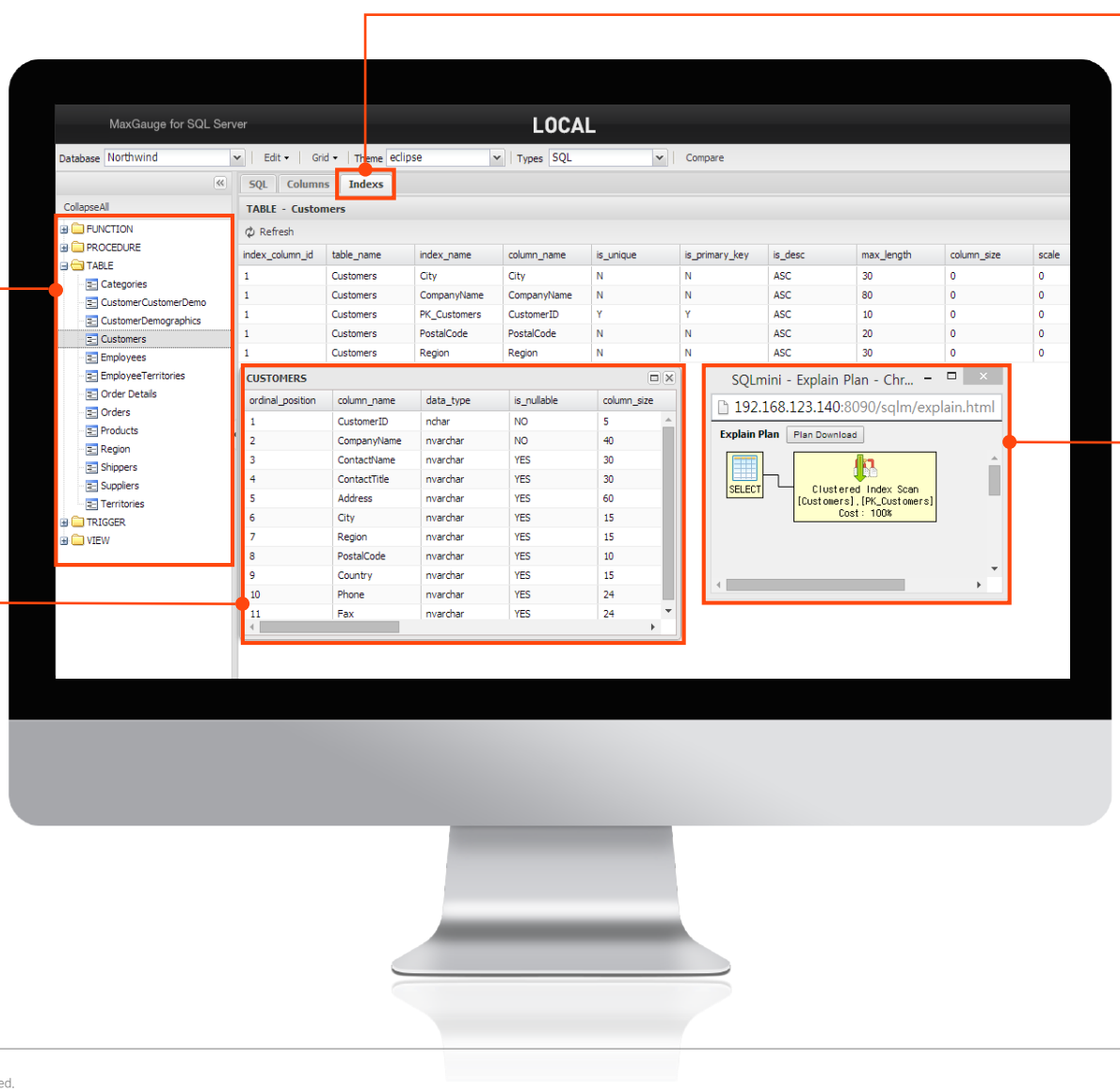
Trends Graph by Indicators of Multiple Servers



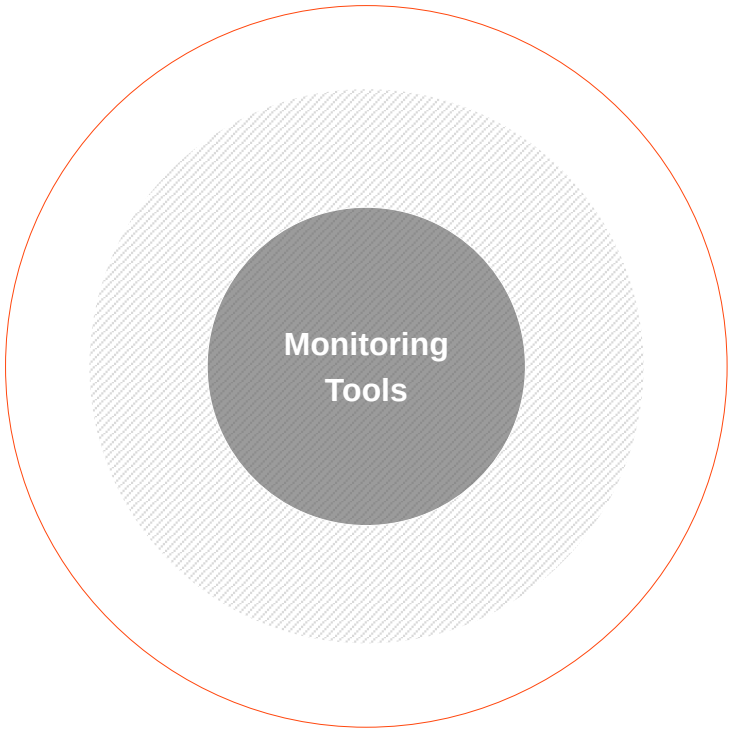
Check and Compare
Indicator Trends by each Server

Select indicator and date
you wish to check

A query Tool Through which you can Write SQL, and Check the plan and Object information



Expanded Monitoring, Tools



- **Count / Wait** Check the values of all the collectible Counts and Waits data
- **Session Manager** Check and manage active sessions currently being executed
- **Top SQL** Identify the most frequently used SQL
- **Database Size Info** Check the Database and Database File information
- **Memory Info** Check on memory usage status of the SQL Server
- **File IO Stat** Check on I/O Status of the Database File
- **OS And Instance Info** Check the default configuration information of OS and Instance
- **Job List** Check the Failed Jobs.
- **Resource Monitor** Check Resource Status(CPU, RAM, DISK)
- **Process List** Check the Process List currently executing
- **Profiler** Create Trace File by filtering based on Duration or Reads

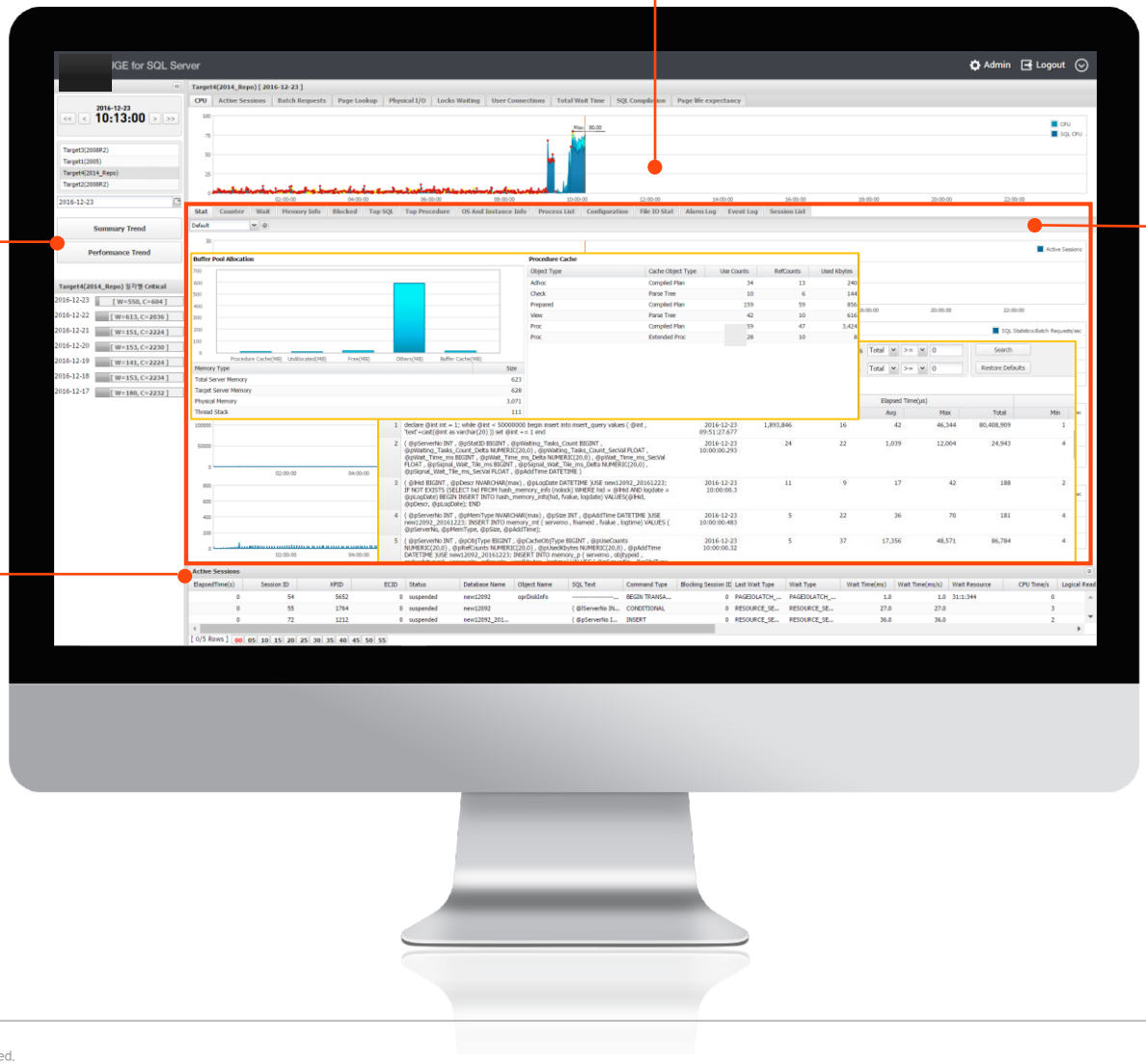
Based on the Performance Data Logged in the Repository, Identify **Issues Occurred in the Past** by Date

Graph Illustration of Main Indicators

Check the distribution of alarm Generation by date

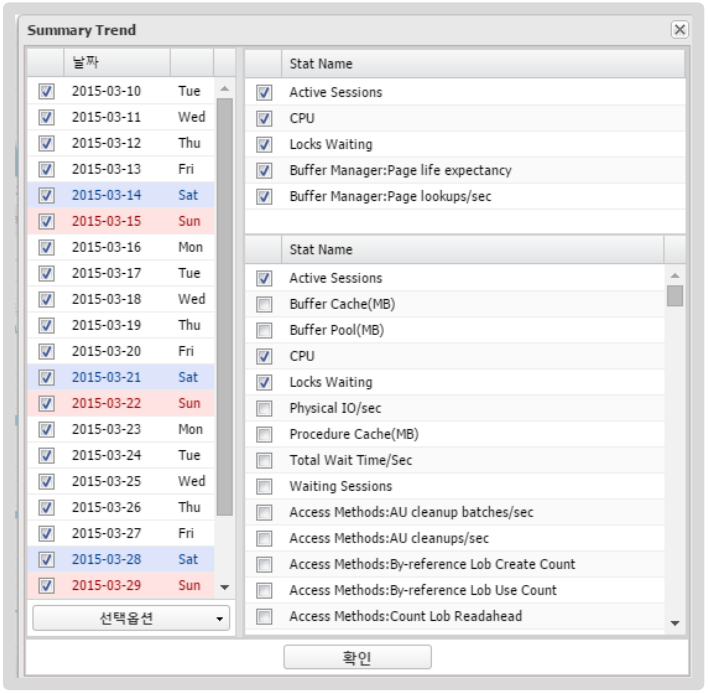
Allows you to analyze the problem from various different angles through the performance log data such as Stat, Wait, Memory, Top SQL, Lock Tree and etc.

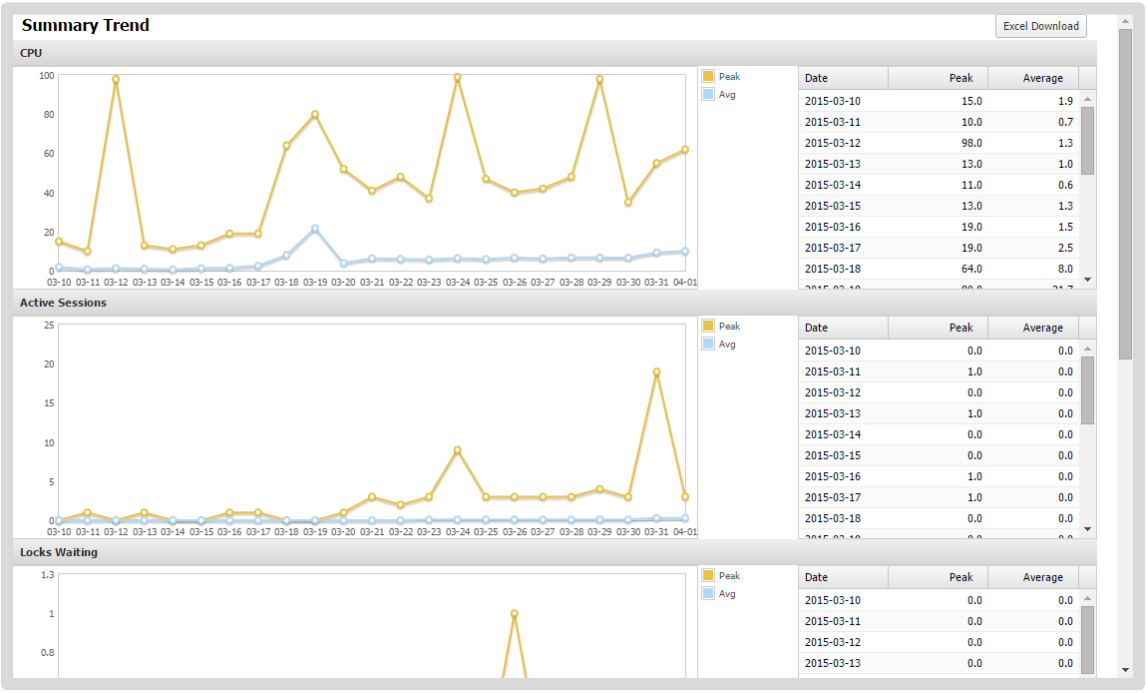
Active Sessions



Summary Trends by Date for the Selected Indicators

A tool which allows you to check the trends by each indicator by showing the daily average and the maximum values, and identify the specific date and time at which the issues occurred.





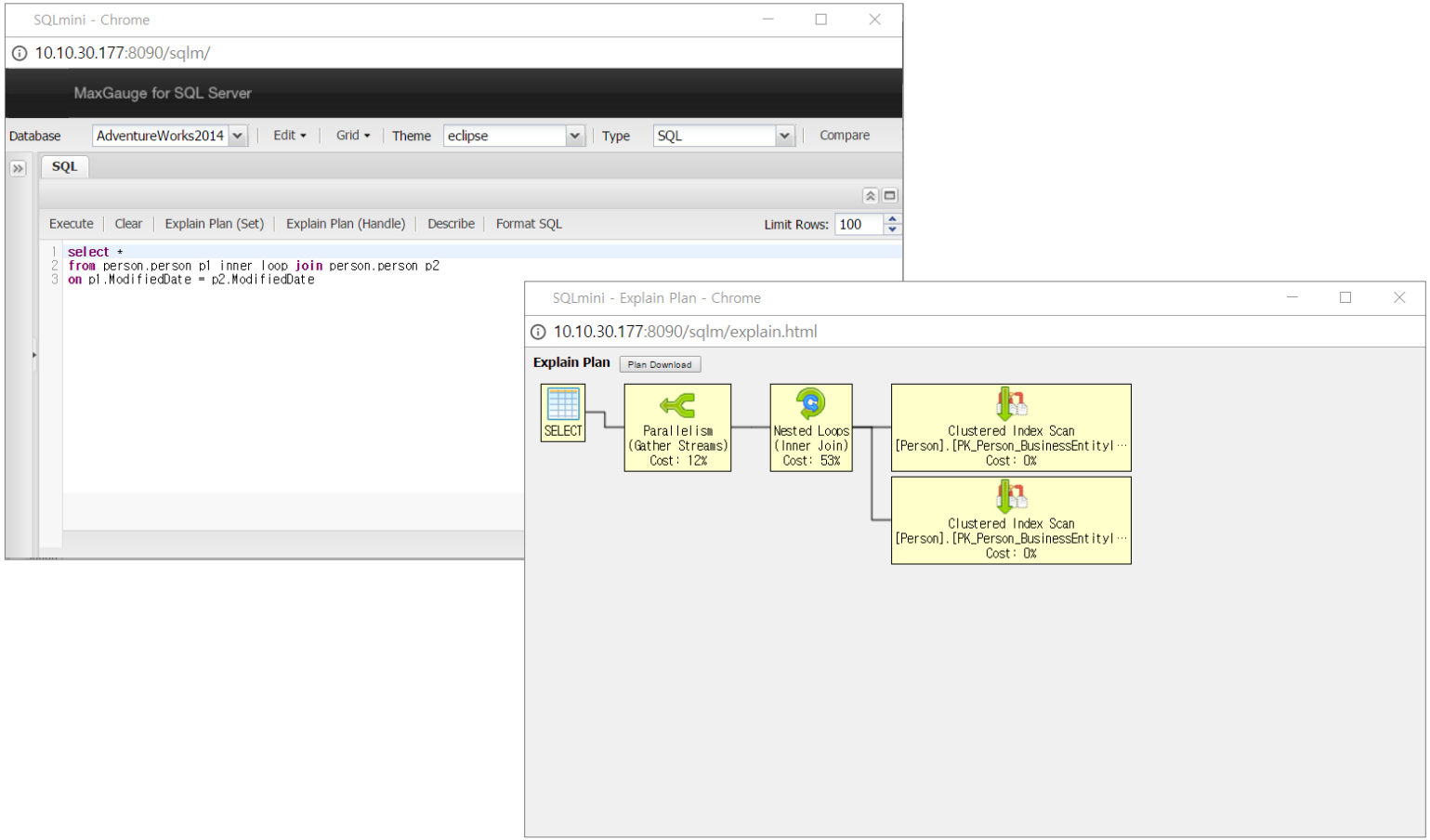
Comparison of Graphs by Date of a Single Performance Indicator

A tool which allows you to compare the trends of graphs by date in regards to a selected performance indicator.

Search the Collected Session Text and Plan

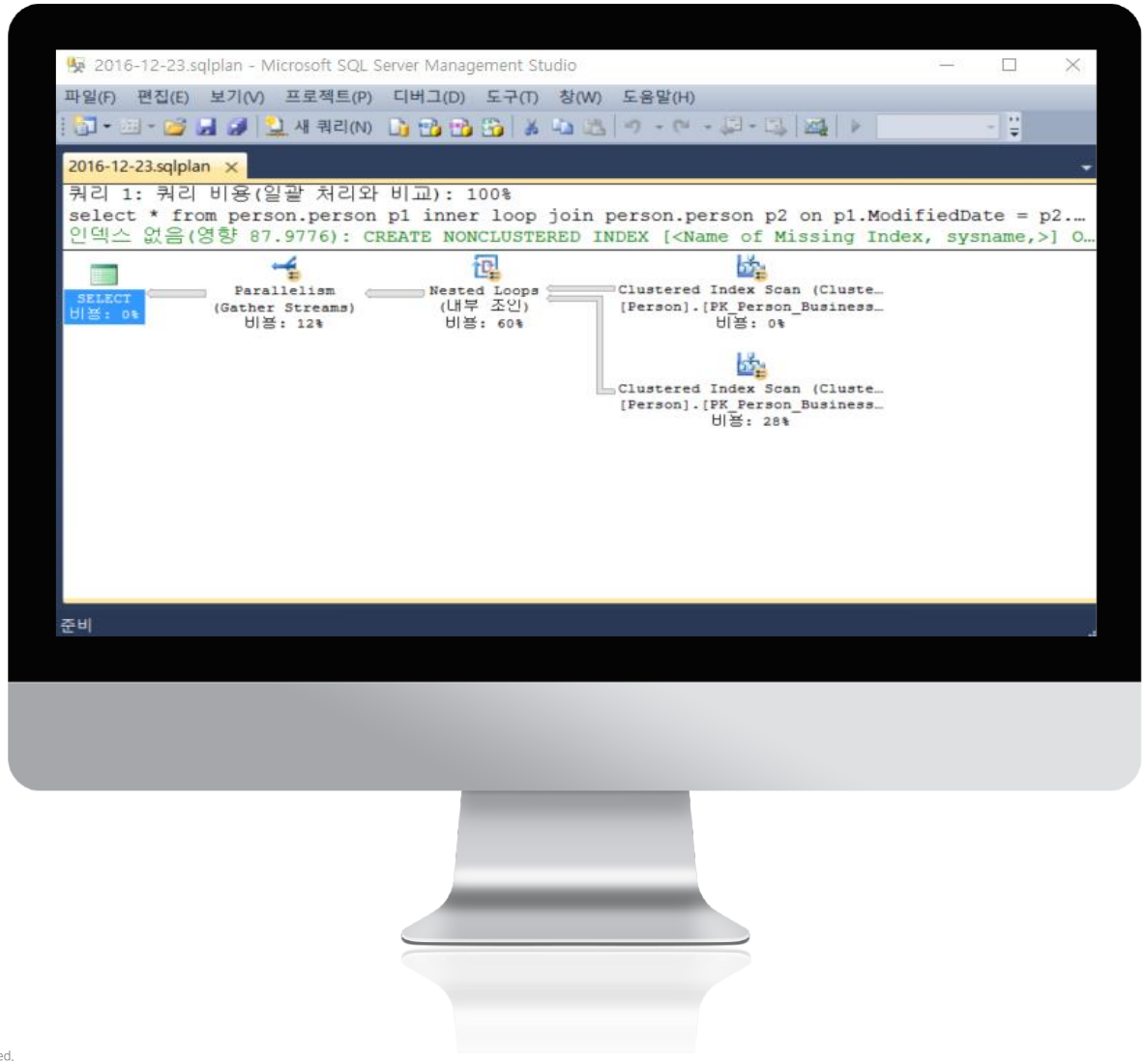
Connect to SQL mini through Session List, Top SQL, or Lock Tree

And check the SQL Text and the Plan.

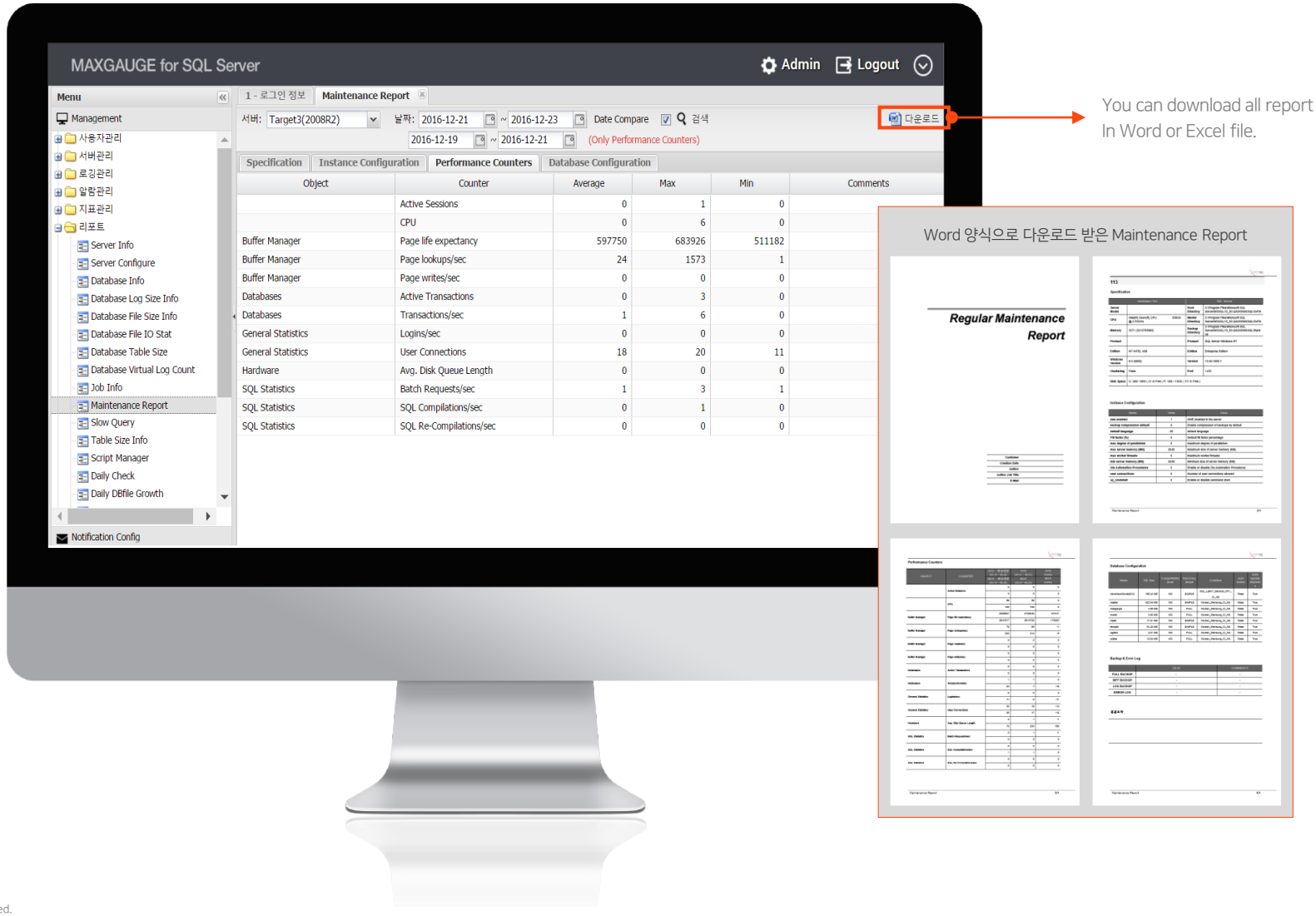


Plan Download

Download the Plan and view the graphic execution plan through SSMS.

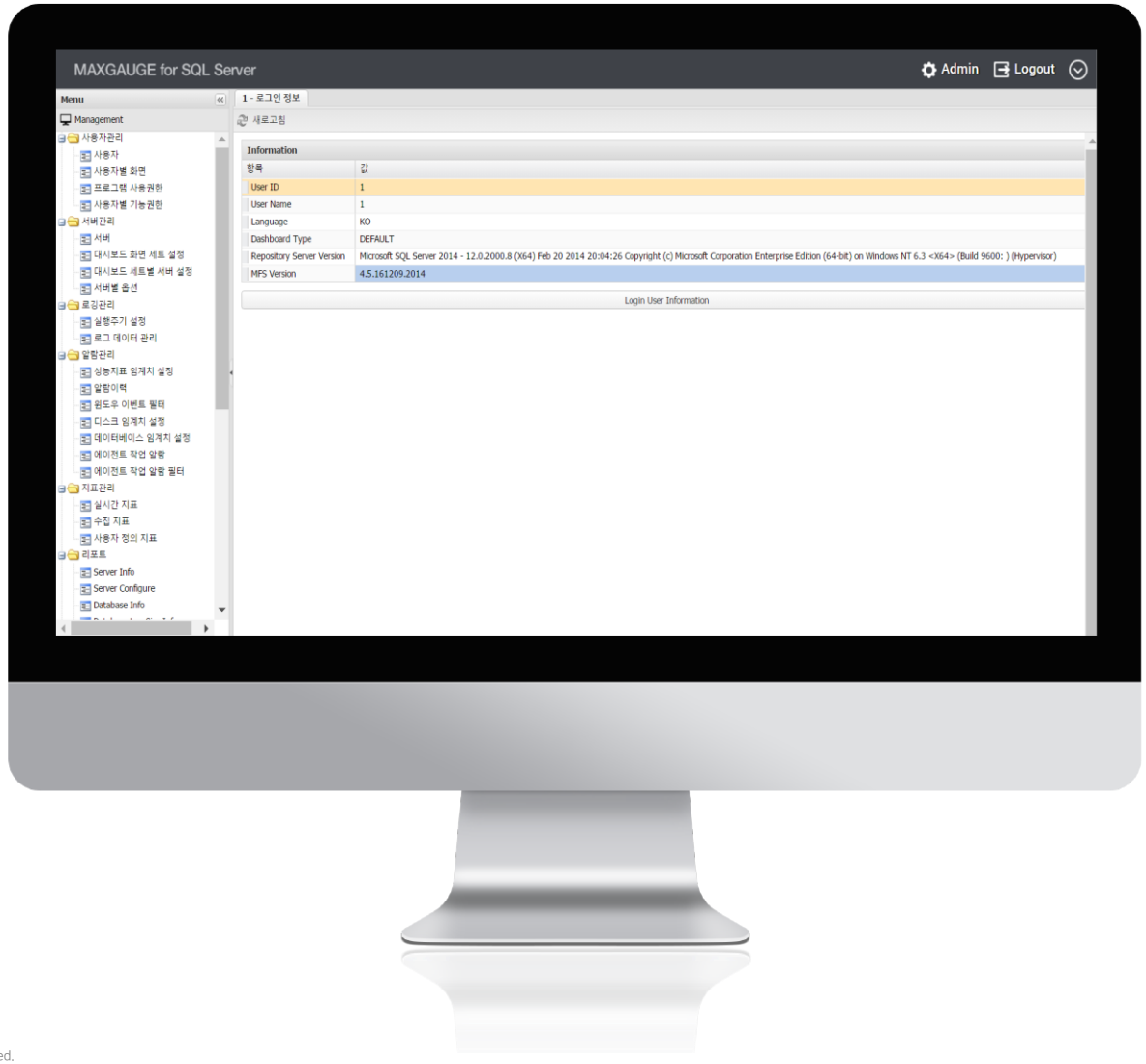


Provides **Convenience in Server Management and Inspection** by Providing Various Reports such as Maintenance Report, Slow Query, and ETC.



Provides Detailed Management Function

By User, Server, Logging, Events, Indicators, and ETC.

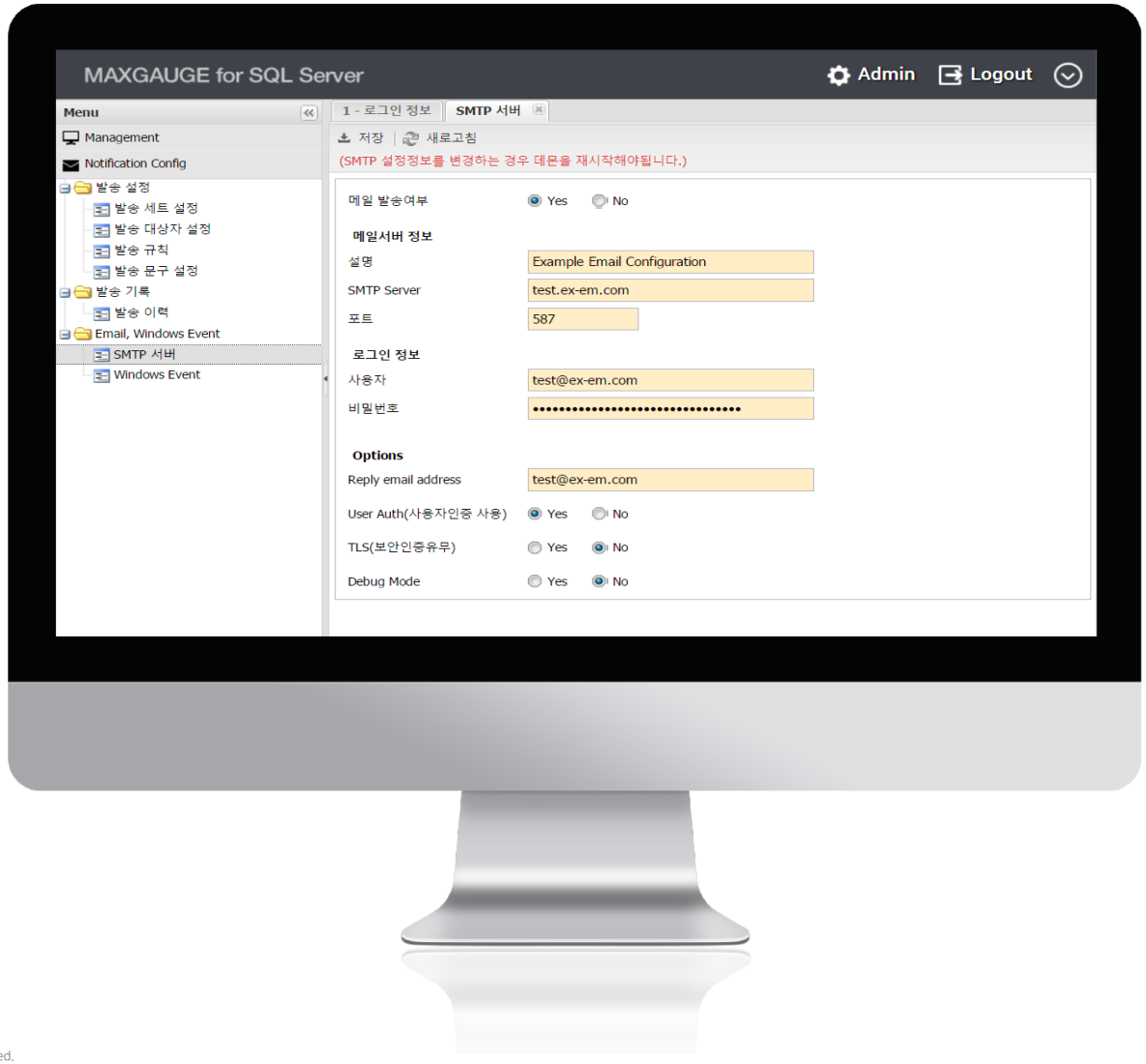


Different Kind of Multiple DB System **Integrated Control**

Sending E-mail Alarm

A function which sends e-mail alarms when such events set

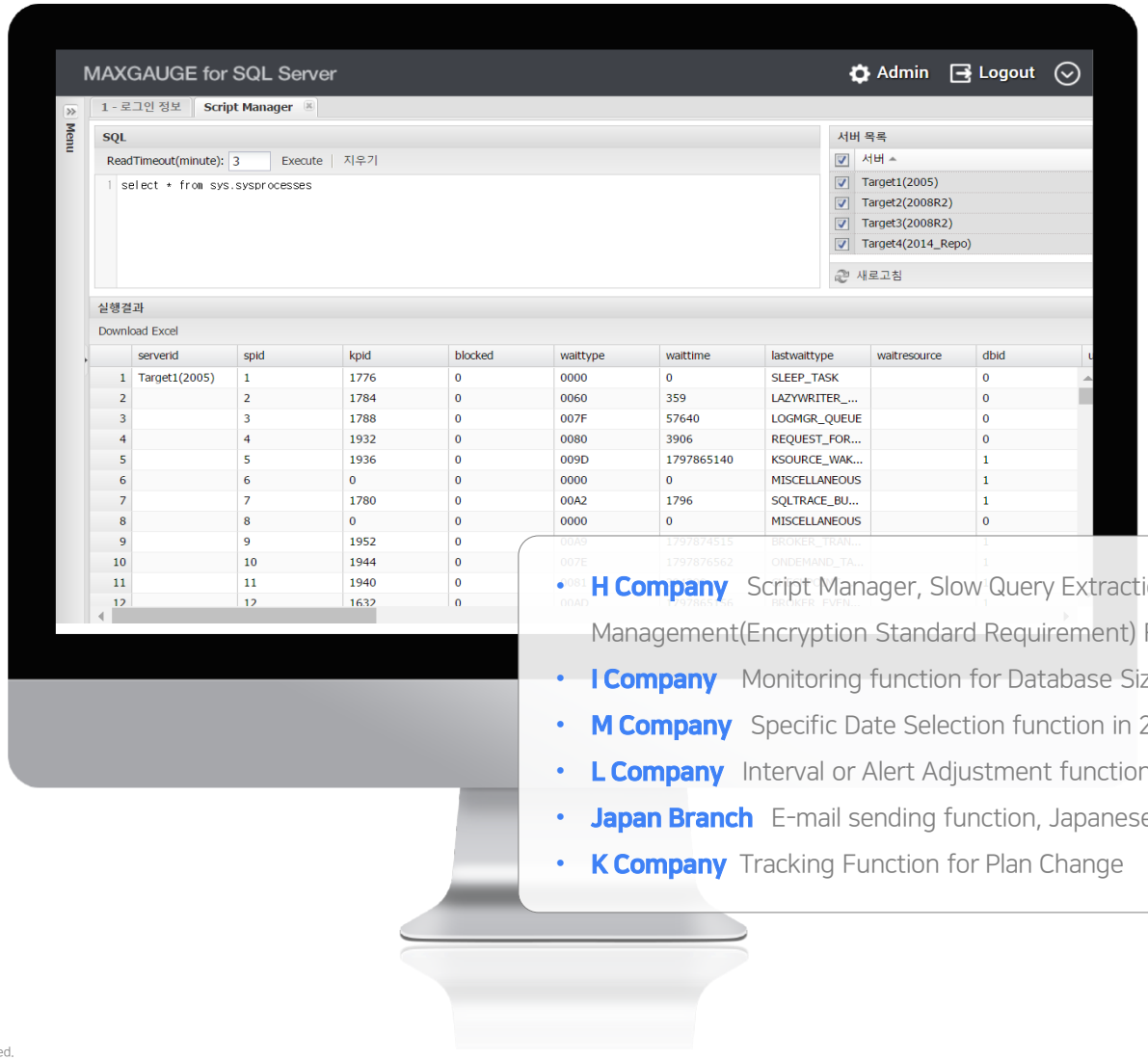
in the event management Occur by registering in the SMTP server.



Strong Support for Customizing MaxGauge for SQL Server to Meet the Various Needs and Demands of the Customers

Use the T-SQL Text for several servers at once and SELECT

Script Manager



- **H Company** Script Manager, Slow Query Extraction, User Management(Encryption Standard Requirement) Function
- **I Company** Monitoring function for Database Size, Disk Size Full
- **M Company** Specific Date Selection function in 24 Hour Trends Comparison
- **L Company** Interval or Alert Adjustment function in Alert Configuration
- **Japan Branch** E-mail sending function, Japanese Language Support
- **K Company** Tracking Function for Plan Change

Success Stories

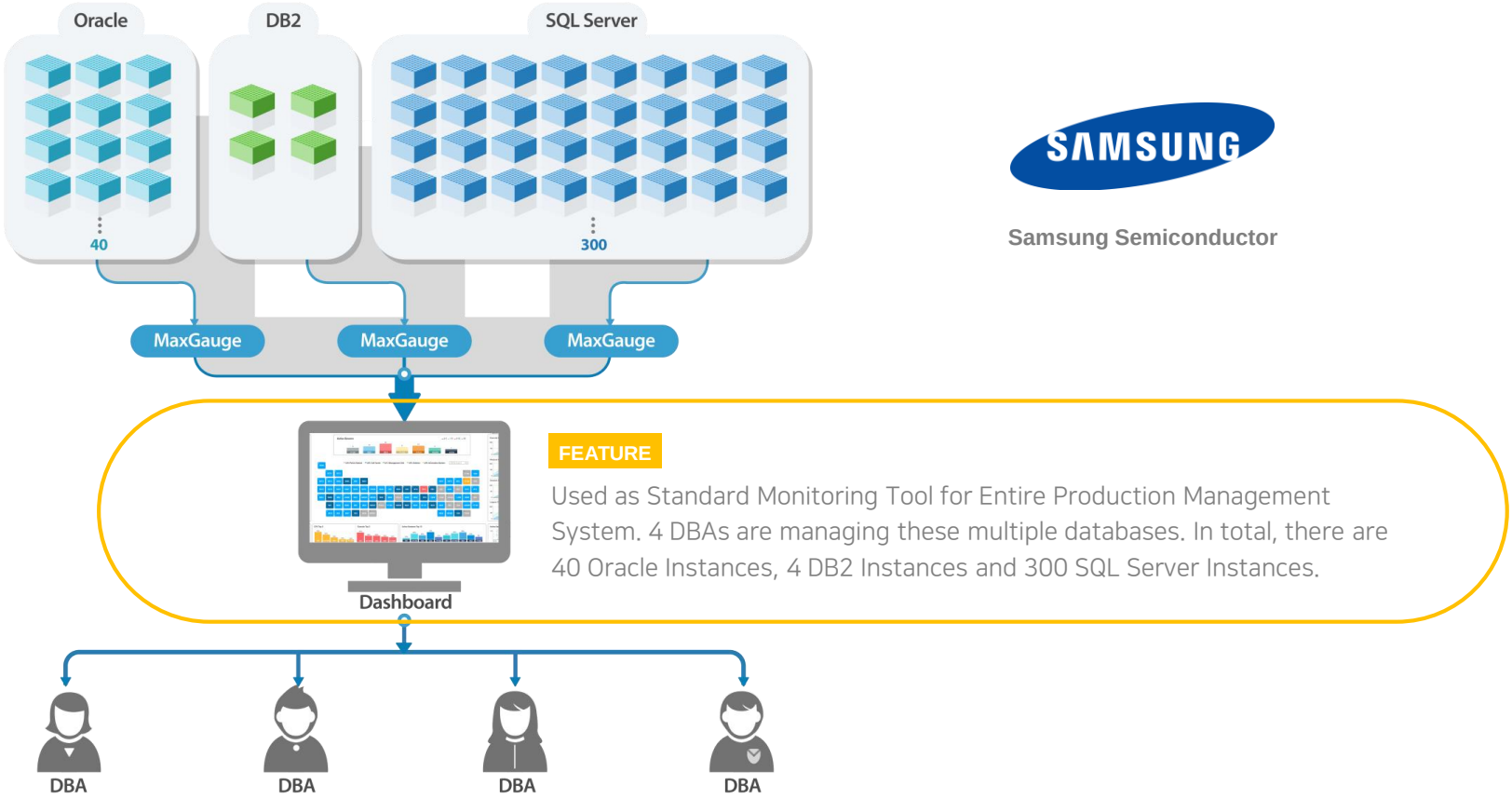
Overseas Project

Customer Voice

Customers

Overseas Project Integrate Control

· Customer : Samsung Semiconductor (Brazil) | · System: Semiconductor Manufacturing Automation System



SAMSUNG

Samsung Semiconductor

FEATURE

Used as Standard Monitoring Tool for Entire Production Management System. 4 DBAs are managing these multiple databases. In total, there are 40 Oracle Instances, 4 DB2 Instances and 300 SQL Server Instances.

Core Fields, Customer experience from customer

Government

LA County Department Azam Popalzai Chief Director of Information Technology

"As a performance management tool, MaxGauge is **a very small footprint** and offers so much more information then what we expected··· "
"After using MaxGauge, we could figure out at particular time who did what and which SQL was running at that time··· actually gave us more visibilities···"

Manufacture

Samsung Semiconductor (Texas Austin) Nghi Nguyen Principal Engineer of IT Infrastructure

"We use MaxGauge because it is the Samsung Global Unit standardization. So this is basically a very valuable tool for us to look into the problems and see future improvement of certain query or certain performance of the system."

Finance

WOORI Bank Manager of System Deployment

"MaxGauge is great for viewing the overall flow. And in case something has exceeded the threshold, the alarm sets off and a notification is sent immediately to the administrator. In the case of our system, it has been performed 12 times better with the help of MaxGuage. Operation that took 12 hours before now can be finished within 1 hour, amazing!"

Energy

Korea Electric Power Coporation Assistant Manager of Business IT

"We were able to identify the potential system error issues and therefore improve in our response speed, and reduce the system downtime and the troubleshooting time has had a great impact on us. MaxGauge provides us the data through which we can objectively determine whether it is an issue of system capacity under a normal operation condition, or whether it is due to system overload."

Standard Global Software from Korea, Maxgauge

MaxGauge has been installed in over **4000 Database Servers** worldwide across multiple industries

Including finance, manufacturing, government, telecommunication, healthcare, etc.

Asia

Korea

Samsung Electronics, Samsung Fire, Samsung- Life Insurance, Samsung Card, LG Electronics, LG Telecom, LG Card, Hyundai Motor, Hyundai Life, KT, SK Hynix, SK Telecom, ING, Hanwha, Posco, Woori Bank, Kookmin Bank, Korea Electric Power Corporation

Japan

Sharp, NTT Data, Keihin, Nomura Research, Canon
Oki Electric Industry, Itochu Techno Solutions, Fujitsu Broad Solution & Consulting, Asahi - Corporation, Asahi Kasei Microdevices, NHN- Play Art, Recochoku

China

China Telecom, China Unicom, PICC, China-CITIC Bank, Nanjing Local Taxation Bureau, Nanjing Citizen Card, TCL, Huatai Securities, Nanjing Citizen Card, Zhejiang Quarantine –Bureau

Other Asian Countries

Phoenix Semiconductor(Philippines), Samsung Asia Private(Singapore), Samsung- India Electronics(India), THAI Samsung- Electronics(Thailand), Samsung Display(Malaysia), Samsung Vina Electronics(Vietnam)

America

County of Los Angeles, AT&T(Texas), Samsung Semiconductor(Texas), Kia Motors (Georgia), Samsung Mexicana(Mexico), Samsung Electronica Da Amazonia (Brazil)

Europe

Hyundai Motor(Czech), Samsung Display (Slovakia), Samsung Electronics(Poland), Samsung Electronics (Slovakia)

Africa

Samsung Electronics(Egypt)

Thank you