

Taking performance to new levels



IBM DB2 Performance Monitor for OS/390 Version 7

Highlights

Analyzes, control, and tunes the performance of DB2 and DB2 applications

Includes a realtime online monitor, a wide variety of reports for in-depth analysis and an explain feature to analyze and optimize SQL statements

Is used by IBM developers to test the performance of new DB2 versions before their release

What's new in Version 7

IBM DB2® Performance Monitor for OS/390® Version 7 provides performance monitoring and problem determination for all functions of DB2, including the ones that have been added to DB2 Universal Database™ for OS/390 Version 7. For example, DB2 Performance Monitor now shows buffer pool data set statistics online and in reports. It also provides more detailed information about suspensions and counters for dynamic SQL statement execution within the extended dynamic SQL statement cache.

The following components and functions are new to DB2 Performance Monitor Version 7:

- Improvements in monitoring using the workstation interface
- Online monitoring of data sharing groups
- New application programming interface
- Enhanced exception event processing
- Expanded filtering and ordering capabilities
- DB2 Performance Monitor Utility Trace supports new DB2 Utility functions



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Improvements in monitoring using the workstation interface

Using DB2 Performance Monitor's Collect Report Data function, you can gather information about data and events in DB2. The only thing you have to do is to start this function and decide the kind of data you want to collect. You do not have to know which traces to start; you just specify the report you want. However, there is also an expert mode available to define in detail which DB2 traces should be collected. The data collection can be triggered and stopped by various criteria:

- Dataset statistics can be monitored information for buffer pools online or requested in statistics reports
- Statistical data is provided for cached dynamic SQL statements so you can analyze and evaluate their efficiency.

Online monitoring of data sharing groups through a single Parallel Sysplex member connection

The following functions support online monitoring of a Data Sharing Group in a Parallel Sysplex® environment:

- Connection to a data sharing group using the group ID.
- Display of threads running in a data sharing group. This gives you an overview of all threads, even if they run on several members.
- Display of threads running on a single member.
- Display of threads and statistics information of any member of a data sharing group on your workstation window.

New application programming interface

DB2 Performance Monitor provides an application programming interface (API) to the Online Monitor data collector. Now you can retrieve performance information about the subsystem and the applications running on it. You can obtain raw data and derived performance information including snapshot information as well as recent history data. This includes exception alerts based on DB2 events and exceeding thresholds.

Enhanced event exception processing

DB2 Performance Monitor Version 7 enhancements include extended event exception processing for "Activity log dataset full", "Dataset extend activities", and "Unit of recovery inflight/indoubt".

Expanded filtering and ordering capabilities

New work process information, such as enduser name, workstation name, transaction name, and correlation ID is now supported in filtering and ordering trace data during batch processing.

DB2 PM Utility Trace supports new DB2 Utility functions

DB2 Performance Monitor Utility Trace was expanded to support the new parallel DB2 utility functions, for example, in COPY REBUILD, LOAD, and REORG.

The screenshot shows a window titled "SG53 - Statistics Details for DSN5". The "Show statistics for:" dropdown is set to "DSN5 GROUP". The left sidebar shows a tree view with "Data Sharing Locking" selected. The main area displays a table of performance counters for three members: SG51, SG52, and SG53.

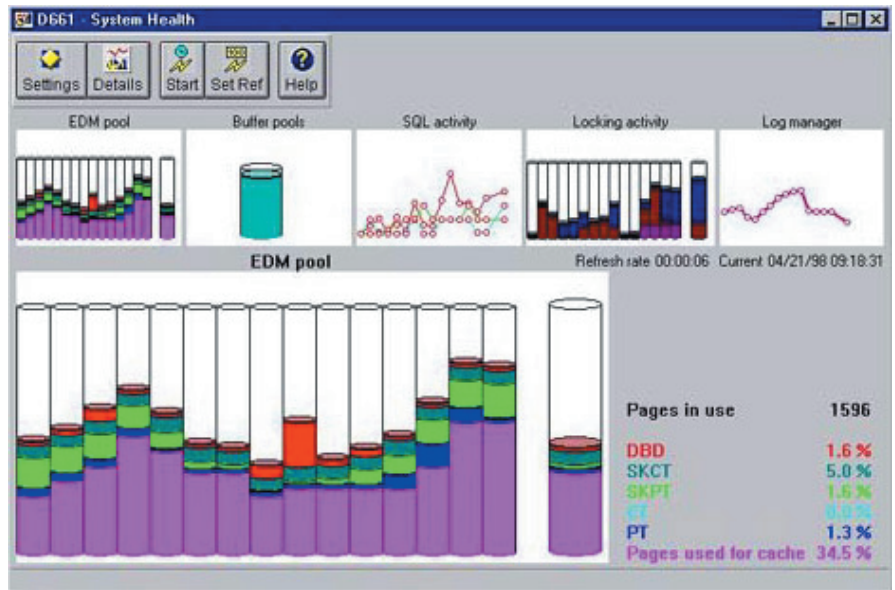
Performance Counters	SG51	SG52	SG53
Global contention rate (%)	0.7	0.2	0.4
False contention rate (%)	0.3	0.2	0.2
P-locks - Lock requests	340	13	39
P-locks - Unlock requests	255	3	4
P-locks - Change requests	38	0	0
Synchronous XES - Lock requests	85418	79877	81050
Synchronous XES - Unlock requests	87995	80172	81632
Synchronous XES - Change requests	1606	0	1
P-lock negotiation - Page set/partition	3	4	14
P-lock negotiation - Page	0	0	0
P-lock negotiation - Other	1	0	0
P-lock negotiation - Change	0	2	9
Asynchronous XES Resources	0	0	1

Group view of Data Sharing Locking

Key benefits

- **Specificity.** Detailed monitoring and in-depth analysis of DB2 Universal Database for OS/390 and DB2 applications.
- **Reliability.** You can trust DB2 Performance Monitor: it is the tool IBM relies on to develop and test DB2.
- **Flexibility.** DB2 Performance Monitor presents its analysis results in a wide range of specialized reports, which can be tailored to suit individual needs.
- **Comprehensiveness.** DB2 Performance Monitor helps in solving performance problems covering the full range of DB2 Universal Database for OS/390 installations. It even assists you in preventing performance problems.
- **Investment protection.** The close relation between DB2 and Performance Monitor ensures that your investment in DB2 is protected. DB2 Performance Monitor provides complete coverage of the latest DB2 Universal Database for OS/390 enhancements and also supports all previous DB2 versions starting with DB2 for MVS/ESA™ Version 5.

DB2 Performance Monitor is downward compatible with previous versions (starting with DB2 Performance Monitor Version 5), and migration is simplified by conversion utilities.



Graphical view of system health statistics

Other useful functions in DB2 Performance Monitor

DB2 Performance Monitor is designed to help you get optimum performance from your database management system and provides useful support for resolving critical performance issues. In particular, you can use DB2 Performance Monitor to:

- Monitor DB2 and DB2 applications online and by Batch reports alerted immediately when problems occur
- Monitor usage of workstations which allows parallel monitoring of different DB2s from one control point
- View and examine the status of a DB2 subsystem and its applications while they are currently active, or investigate events and performance problems that happened in the past
- Monitor individual data sharing members or entire data sharing groups in online or batch modes
- Monitor applications running in a query parallelism environment on a Parallel Sysplex cluster, even if the parallel tasks are executed on different processors
- Analyze performance problems online or through a vast set of detailed reports
- Obtain tuning recommendations
- Have the access paths of your SQL statements explained in order to optimize them
- Recognize periodic exceptions and event exceptions and take appropriate actions by means of a user exit
- Restrict user authorization to specific areas or specific threads



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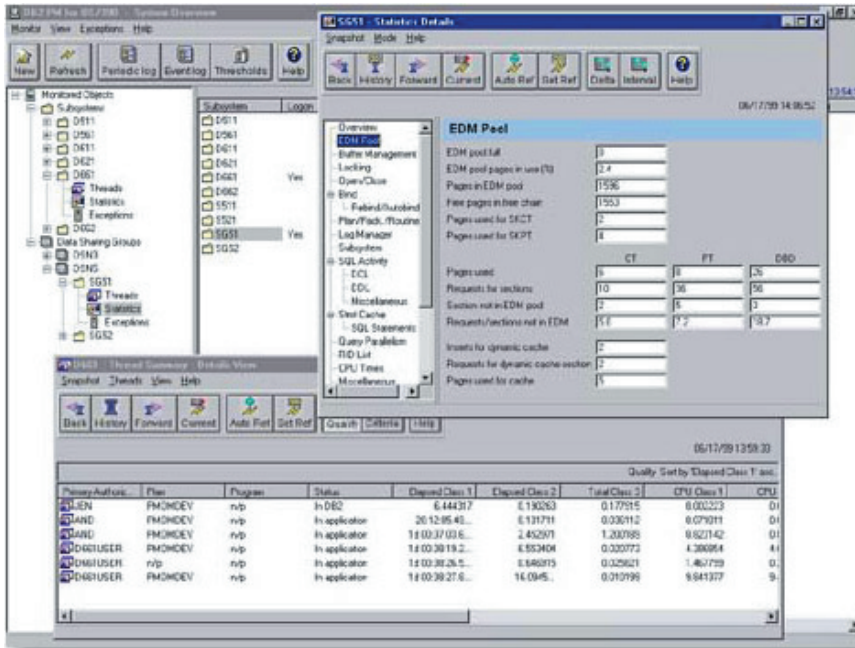
Printed in United States of America
12-00
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Online Monitor Window showing applications and statistics

- Recognize trends and anticipate potential bottlenecks
- Save DB2 trace data in the DB2 Performance Monitor performance database for further investigation and trend analysis.

Using these capabilities of DB2 PM in your daily business helps increase the productivity of DB2 system and application programmers and, most important, can considerably improve the capacity, reliability and availability of your DB2 system environment.

Software requirements

- DB2 for OS/390 Version 5, DB2 Universal Database for OS/390 Version 6, and DB2 Universal Database for OS/390 Version 7
- ISPF, OS/2® or Windows NT® depending on which Online Monitor you use.

For more information

Please contact your IBM marketing representative, an IBM Business Partner, or 1-800-IBM-CALL within the US. Also visit our Web site at ibm.com/software/data/db2imstools

When ordering DB2 Performance Monitor for OS/390 Version 7, please specify program number 5655-E61.

GC27-1049-01

