ExpeTune DB

MACRO 4
A Division of UNICOM Global

Db2 performance management

Optimize business throughput by identifying SQL and Db2 inefficiencies

ExpeTune DB provides a wide range of facilities to help z/OS performance analysts manage SQL and Db2 more effectively

ExpeTune DB helps database administrators and Db2 application developers manage Db2 performance, and in particular, dynamic Db2 workload in a more effective way. ExpeTune DB delivers:

- MIPS recovery and optimized business efficiency through the identification of SQL and Db2 inefficiencies
- Sustainable cost reductions through improved application response times
- Identification of dynamic SQL originating from other platforms that is responsible for peak MIPS usage or high overall CPU burn
- Smoother roll-outs and upgrades of application Db2 usage, through the use of predictive rebind impact analysis
- Assistance in conforming to your organization's SQL quality assurance process

Db2 performance management

Poor database and SQL performance can lead to significant business costs. Database accesses are often a major factor leading to high MIPS usage and poor response times. Excessive MIPS consumption costs money and poor response times can reduce staff efficiency and cause inconvenience to customers.

The reliance of businesses on web services and internet technologies means that mainframes must also process SQL requests that come in from remote systems, often resulting in significant CPU workloads and a possible degradation in system performance.

No matter how committed organizations are to gaining cost reductions through performance improvements, quite often there are simply not enough hours in the day to proactively seek out such opportunities when major projects need to be delivered and resourcing levels are low.

ExpeTune DB alleviates many of these issues by helping users manage Db2 performance, in particular dynamic Db2 workload, in a simple, efficient and productive way.

ExpeTune DB

Macro 4's integrated suite for z/OS and Db2 performance management:

ExpeTune
z/OS application performance management

ExpeTune DB
Db2 performance management

FreezeFrame
z/OS application performance analysis

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Smoother roll-out and upgrades

Before promoting application changes to a production environment, ExpeTune DB can be used to provide a healthcheck.

Upgrading Db2 to the latest version can be very beneficial but also has its pitfalls. Static SQL may require rebinding to take advantage of the new version of Db2. However, this process can sometimes lead to previously efficient SQL taking significantly longer to run. ExpeTune DB's predictive comparison facility can help to prevent costly and embarrasing mistakes.

Identification of SQL and Db2 inefficiencies

ExpeTune DB can help a Db2 performance analyst to identify inefficiencies and to understand the reasons for high resource usage, allowing corrective action to be taken.

ExpeTune DB provides an ISPF interface to the Db2 EXPLAIN process and will list bind time and dynamic explain access paths. In addition to listing access path information, ExpeTune DB can also list relevant Db2 Catalog information for each statement, providing a 'one-stop' set of data to resolve access path problems.

ExpeTune DB can use the IFI interface to Db2 to externalize the contents of the dynamic statement cache, together with usage statistics. The SQL text extracted by this process can then be explained.

Dynamic SQL

One of the biggest resource consumers at z/OS Db2 sites is the DIST address space, which runs enclaves to process dynamic SQL originating from other platforms.

ERP systems, remote Java applications and even Excel spreadsheets can connect to Db2 and run dynamic SQL; without a tool like ExpeTune DB, the cause of this additional workload is often a mystery.

Static SQL

ExpeTune DB will extract SQL from the Db2 catalog and list it in a readable format. This is useful for investigating table usage, including the identification of obsolete tables.

The EXPLAIN process

ExpeTune DB can be used to list and explain SQL from different sources, generating a succinct 'plain text' summary output as a result. The output can provide:

- Exception processing: limiting the output to only those SQL statements that qualify as exceptions
- Predicted CPU consumption threshold: limiting the output to only the SQL statements where the optimizer predicted CPU consumption exceeds a user-specified threshold. This proactively highlights potential resource consumers before releasing an application into production
- Access path warnings: access paths are compared with a supplied exception table containing conditions that should be ignored or highlighted with various warning severities. The exception table is fully configurable
- Access path comparison: allowing the dynamic explain access path to be compared with the bind time access path. Output can be limited to only those SQL statements where access paths differ
- Host variable checking: allowing input host variables to be checked against the Db2 catalog definition of the associated columns. The output can be limited to only the SQL statements containing mismatched host variables

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