Enhanced IBM Data Management Tools for DB2
Add Function for Managing Your DB2 Database Environment

Overview
Building on a strengthened focus on data management tools, IBM now has enhanced tools and functions that further complement the premier DB2 Universal Database (UDB) for z/OS database engine.

New in this Announcement
IBM continues to meet customer requirements in performance and recovery management by offering enhancements to five key tools for DB2 for z/OS. The enhanced program releases include:
• DB2 Automation Tool for z/OS, V1.3
• DB2 Buffer Pool Analyzer for z/OS, V1.2
• DB2 Log Analysis Tool for z/OS, V1.3
• DB2 Object Restore for z/OS, V1.3
• DB2 Performance Monitor for z/OS, V7.2

For details about these products, refer to the Description section.

IBM first announced its entry into the data management tools business in September 2000, delivering a set of 34 tools for IMS and DB2 covering key system management functions, and committing to expand this portfolio in response to customer requirements. This announcement is further proof of our ability to offer a broad range of tools that support the DB2 and IMS databases and to provide that support with day one availability for each new version or release of the databases. View the complete list of IBM Data Management Tools announcements on our Web site at:

http://www.ibm.com/software/data/db2imstools

At a Glance
The IBM Data Management Tools business is a unique model in the industry. IBM continues to increase its investment in tools to deliver comprehensive solutions that meet requirements faster than ever before. Increased focus is on common interfaces, cross-tool integration, testing with the same criteria used for the databases, and expansion into multiplatforms.

Five newly enhanced DB2 for z/OS tools offer capabilities in major key functional areas.

Administration tools and utilities — The enhanced DB2 Automation Tool for z/OS, V1.3 streamlines database management tasks and improves productivity.

Performance management tools — DB2 Buffer Pool Analyzer for z/OS, V1.2 and DB2 Performance Monitor for z/OS, V7.2 facilitate peak operation levels.

Recovery and replication tools — DB2 Log Analysis Tool for z/OS, V1.3 and DB2 Object Restore for z/OS, V1.3 add additional backup and recovery functions.

Key Prerequisites
Any hardware and software configuration that supports the required version of DB2. Details are listed in the Hardware Requirements and Software Requirements sections.

Planned Availability Dates
• December 6, 2002
  - DB2 Buffer Pool Analyzer for z/OS, V1.2
  - DB2 Log Analysis Tool for z/OS, V1.3
  - DB2 Object Restore for z/OS, V1.3
  - DB2 Performance Monitor for z/OS, V7.2
• January 17, 2003, DB2 Automation Tool for z/OS, V1.3

For ordering, contact:
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Reference: LE001

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**IBM Tools for Database Administration**

**DB2 Automation Tool for z/OS, V1.3** allows database administrators (DBAs) to greatly reduce manual work associated with database maintenance. Database objects, exceptions, and utilities are specified in profiles, then combined into a job profile. When jobs are built, DB2 Automation Tool evaluates database conditions against the thresholds specified by the administrator and generates the appropriate utility jobs. Jobs may execute multiple DB2 utilities against multiple objects, with appropriate parameters for each, in a specified order of steps.

In addition to utility automation, DB2 Automation Tool V1.3 provides robust data set management and data page browser/editor tools to simplify the precise and timely execution of key database management tasks.

Significant new functionality in DB2 Automation Tool V1.3 advances the goal of enterprise autonomic computing, including:

- Support for the DB2 RECOVER and REPAIR utilities, and support for the COPYTOCOPY utility, introduced in DB2 V7 for OS/390® and z/OS.
- Predefined profiles are provided that you can use to back up or recover the catalog and/or directory.
- Improved handling of migrated spaces: When spaces have been migrated to tape, DB2 Automation Tool issues HRECALLs when the job is built and organizes the recalls for maximum tape mounting efficiency. HSM then queues the requests and recalls all the spaces that exist on the same backup tape with one tape mount.
- Enhanced reporting and messages when building jobs: DB2 Automation Tool generates error messages and produces an online report of build results.
- Improved maintenance of the DB2 Automation Tool data repository: Options on the MODIFY utility screen allow easy deletion of old rows from DB2 Automation Tool tables and for several IBM tables used for recovery operations.

Support for DB2 V7 JCL, including:

- The TEMPLATE control statement lets you allocate data sets without using JCL DD cards while processing a list of objects.
- DB2 V7 substitution variables and substringing of substitution variables can be used when building the data set names.
- Integration with other z/OS tools and facilities: DB2 Automation Tool V1.3 can now be launched from within DB2 Change Accumulation Tool and DB2 Administration Launchpad, and profiles may be shared between DB2 Change Accumulation Tool and DB2 Automation Tool.

If you have Enterprise Resource Planning (ERP) environments, such as SAP and PeopleSoft, you can take advantage of the following enhancements:

- Utility restart capabilities: Job profiles and execution results are now tracked and histories of them may be viewed online. If a job abends, details such as location and cause are easy to identify.
- More efficient work data set space allocation: DB2 Automation Tool now calculates work data set requirements on a per job basis, thereby increasing space allocation and usage efficiency.
- Sample profiles developed for SAP and other environments provide guidance on how to use DB2 Automation Tool for complex tasks.
- Enhanced load balancing when multiple jobs are generated.
- Support for real-time statistics in DB2 V7 reduces the need to use RUNSTATS and incur the associated overhead.

Profile creation and management improvements include:

- New user exits allow extension of DB2 Automation Tool’s existing exception monitoring, so that custom exceptions may be quickly developed and implemented.
- New exception conditions provide a “simple scheduling” capability as an alternative to more labor-intensive job schedulers within the DB2 environment. For example, administrators may specify hours of the day, a day of the week, several days, or a date or day of every month in their exception conditions. JCL will be generated when the “scheduling” conditions are met.
- When creating exception profiles, DB2 Automation Tool can be configured to use a shadow copy of the catalog when evaluating the exception conditions.
- All profiles can now be renamed when imported and also by using the new RENAME line command.
- When deleting an object, exception, or utility profile, DB2 Automation Tool now presents a list of the job profiles that use that profile.
- During ALTER processing, an option has been added to retain the current size of an object even when it appears to be over allocated. For spaces that may vary greatly in size between utility executions, this can prevent an allocation problem that could cause a space to go into multiple extents.
- Support for user-specified work file device types is available.
- When using primary commands that refer to columns, columns may now be referred to by number rather than name.
- When setting up object profiles:
  - Objects may be selected on a particular volume
  - Drill-down is available from a volume list to select spaces
  - Wildcarding may be used to include or exclude all spaces, tablespaces only, or indexspaces only
- Indexes may now be selected by database when creating an object profile.
- A utility ID may now be prefixed with the job name, step name, or both.
- COPY utility control cards can now be stacked or separated.
- DB2 Automation Tool now supports reallocations on VCAT defined spaces.
- Interface enhancements providing more detail, including descriptive column names, context display of available commands, and informational messages related to various tasks are provided.
The Dataset Manager feature of DB2 Automation Tool is a powerful and flexible facility that allows administrators to easily view, evaluate, and relocate DB2 data sets. At move time, characteristics of the target data set also may be changed, and Dataset Manager takes care of related required tasks, such as stopping and starting the associated database and updating the DB2 catalog.

Usability enhancements to Dataset Manager include:

- When specifying new target data set space quantities, the new quantity values may be specified as a percentage of space initially allocated, currently allocated, or currently used.
- The ability to select specific target data set stogroup volumes within a stogroup when moving a data set to a stogroup.
- An expanded set of line commands allows management of the move queue directly from the object list screens.
- Program function keys have been added to facilitate movement between objects within the object selection screens.
- Data set high used RBA, high allocated RBA, and percentage of space used information has been added to all applicable object related displays.
- Program function key support has been added:
  - For toggling between object selection displays and the move data set queue display
  - To the move data set queue detail display to facilitate ease of use when specifying new target data set values on an individual data set basis
- New selection view type options have been added for viewing data set selection by tablespace or indexspace. These are in addition to the current options of database, stogroup, user-defined, VCAT-defined, and volume. New object selection displays to support the tablespace and indexspace view types have been added.
- Volume display has been enhanced to include additional columns including volume mount type, volume status, and volume allocation status.
- Wildcards may now be used in the Update Where clause when specifying database name, space name, and data set number on the move data set queue display.
- The move execution detail log aid has been enhanced with new and changed messages to better assist with the understanding and diagnosis of ALTER processing. The names of data sets used during move execution have also been appended to applicable messages in the execution detail log.
- Removal of the ALTER tablespace and ALTER indexspace activity is done during move execution when feasible. This enables potential lock contention incurred during ALTER processing to be minimized.
- Multiple line command support has been added for all applicable displays when adding or deleting data sets within the move queue.
- Highlighting has been added to all applicable object selection displays to indicate which objects already exist in the move queue.
- New and improved move execution confirmation displays are provided when move execution is selected.
- Column numbers may now be used in the Update column clause when updating target data set values on the move data set queue display.

**IBM Database Tools for Replication and Recovery**

**DB2 Log Analysis Tool for z/OS, V1.3** makes it easy to quickly audit and identify changes to data. Once identified, changes may be selectively reversed, reapplied (at the original database or at other databases), or reported upon. Highly customized summary or detailed views of data changes, and automatically generated SQL for reversing or reapplying changes, easily provide tighter control over data integrity.

**Enhanced Reporting Capabilities**

- **Report on rollbacks**
  DB2 Log Analysis Tool V1.3 now makes it easier to determine which database updates were rolled back instead of committed, and from which users and applications. Reports on rollbacks executed by DB2 as a result of aborted units of recovery show both rolled back and committed units of work, or can show rollbacks exclusively.
- **Identify changes related to referential integrity (RI)**
  DB2 Log Analysis Tool V1.3 quickly distinguishes between database updates resulting from a user executing SQL and updates resulting from referential constraints defined in DB2.
- **Expanded column data filtering**
  New operators are now available to perform column data filtering, including greater and less than, not equal to, and more. In addition, this capability is provided through ISPF panel input. This allows easier specification of such column data filters over previous releases, which had required JCL editing.
- **Reporting on objects that have been dropped and recreated**
  DB2 Log Analysis Tool can now report on dropped objects using both old and new DB2 identifiers, offering greater versatility in recover situations. For example, after recovering a dropped table with DB2 Object Restore or any other recovery process, this feature makes it possible to use DB2 Log Analysis Tool V1.3 to easily restore the data in the regenerated table back to its state at the time the table was dropped.
- **List specification**
  A new general report filter option allows list specification for plan names, authorization IDs, and/or job names. Previously, lists were only available on objects such as tables or tablespaces. This provides greater flexibility and granularity in a single general report run.

**Increased Control Over Report Generation**

- **Advanced archive log access management**
  DB2 Log Analysis Tool V1.3 now allows greater flexibility in BSDS processing. Specific copies of archive logs (for example, ARCHLOG1, ARCHLOG2) can be requested exclusively for processing. When the same data exists on both an archive and active log, specification is permitted to determine which log will be read.
• Explicit log data sets
   It is now possible to specify log data sets explicitly, including older archive logs that may have been rolled off of the BSDS.

• Partition selection
   Analysis and reporting can now be greatly accelerated by selecting a specific partition in a partitioned tablespace, thereby limiting processing to the desired data rather than an entire tablespace.

More Options When Applying Results of Analysis
• Load results of detail reports into DB2 tables
   “Before” data and “after” data generated in DB2 Log Analysis Tool V1.3 detail reports can now be loaded into DB2, allowing for analysis and reporting with query tools of choice such as DB2 Web Query Tool. This feature also introduces the possibility of using the data contained in the loaded detail report as a mechanism for targeted copying of data changes from one DB2 subsystem to others.

• Streamlined UNDO/REDO SQL processing
   A new option is available to process generated UNDO/REDO in batch mode dynamically. This process aids in running any generated SQL and coexists with the static SQL process. SQL can now be fully processed without leaving the product. Restart capabilities are built into this dynamic batch SQL processor.

• Support for ROWID type columns
   DB2 Log Analysis Tool V1.3 functions now support ROWID type columns. Wherever DBAs are exploiting the benefits of ROWID type column data, REDO or UNDO SQL can now be generated and details loaded into DB2.

Performance and Integration Enhancements
• New analysis and log handling techniques provide faster processing and reporting for many large scale analysis scenarios.

• Support for ASCII and UNIDCODE data
   Through the IBM components OS/390 R8/R9/R10 Support for Unicode and z/OS Support for Unicode (and their associated APIs), DB2 Log Analysis Tool V1.3 now supports ASCII and UNIDCODE table data conversion for all log analysis functions, in addition to the native support in DB2 Log Analysis Tool for EBCDIC data.

• Integration with DB2 Tools for z/OS
   In addition to existing integration with DB2 Administration Launchpad and DB2 Object Restore, DB2 Log Analysis Tool V1.3 integration has been additionally enhanced so that it may be launched from within DB2 Object Restore V1.3, streamlining recovery processes for database objects, their dependencies, their data, and with any referential constraints intact.

DB2 Object Restore for z/OS, V1.3 provides rapid, targeted restore of objects dropped from DB2 environments including databases, tablespaces, tables, indexes, data, table authorizations, and related object dependencies even if they no longer exist in the DB2 catalog.

Now database administrators can reduce downtime, accelerate restore processes, and have more confidence in maintenance and test procedures that involve dropping DB2 objects. By adding DB2 Object Restore’s comprehensive recovery capabilities to their portfolio of tools, DBAs can avoid the overhead and effort associated with full disaster recovery procedures in the event of unintended object loss or corruption.

New Recovery Capabilities
DB2 Object Restore V1.3 now offers a significantly expanded scope of recoverable database objects and attributes, including:

• Triggers
• RI foreign key, primary key, and unique key constraints
• LOB Tablespaces
• Alter timestamp versioning
• Stored procedures and user-defined functions for DB2 for OS/390 V6 through DB2 for z/OS V7
• User Defined Types (UDTs)

If a table is recovered and it contains a reference to a Distinct Type that no longer exists, then DB2 Object Restore V1.3 will recover the missing Distinct Type.

• A new “bind” option allows generation of plan/package bind controls for a collection.

Repository Management Enhancements
Administration of the DB2 Object Restore V1.3 versioning repository has been greatly enhanced through new automated loading, cleanup, update, and other capabilities.

• Repository size may now be managed simply by specifying the number of objects to be retained. Once this limit is reached the oldest objects roll off as new ones are added.

• Individual objects may be selected for dropping from the versioning repository.

• Image copies generated by DB2 Object Restore may be automatically dropped based on age.

• JCL may be automatically generated for loading and managing the DB2 Object Restore versioning repository. This provides easier control over, and faster execution of, these installation and maintenance tasks.

• The versioning repository may be updated online through an online load command that will scan storage groups and update all object records to reflect new or altered objects.

• Load updates

Standardized report formats, simplified JCL, and improved performance in DB2 Object Restore all contribute to enhanced repository management. For example, prior versions of DB2 Object Restore ran a multi-step batch job to update the repository. DB2 Object Restore V1.3 has improved performance by reducing this to a one-step job.
Administrators now have easier access to image copying function and the ability to inspect image copy results through:

- **Image copy generation option**
  DB2 Object Restore V1.3 provides the ability to create an image copy within the product (for example, directly after a tablespace recovery), keeping related tasks closer at hand.

- **Image copy viewer**
  Allows you to view the contents of SYSIBM.SYSCOPY and RS.SYSCOPY tables, as well as the image copy data set LISTCAT information. Lists of objects to be viewed are generated through a simple ISPF interface allowing wildcards for identifying desired tablespaces and databases, with options to view RS.SYSCOPY rows only, SYSIBM.SYSCOPY rows only, or both. From the resulting list, an "L" command produces LISTCAT information for any given image copy data set, and an "I" command displays expanded image copy information, including Image Copy Type, timestamp created, log RBA, data set device, name, and media type.

**Interface and Usability Enhancements**

- Main Menu options are now alphanumeric rather than numeric characters
- Formatting of numeric values is improved to eliminate left zero padding

**Installation and Administration Enhancements**

- DB2 Object Restore’s product bind has been updated to use packages, and allocation parameters make it possible to predefine the storage location of JCL data sets.

- **Product startup CLIST update**
  New REXX versions of the product startup CLISTs are shipped with the product for administrators that prefer REXX EXECs.

**z/OS Tool Integration**

In addition to existing integration with DB2 Administration Launchpad and DB2 Log Analysis Tool, the following integration enhancements have been implemented in DB2 Object Restore V1.3.

- **Log Analysis Tool**
  After restoring database objects, data may be more easily recovered to a desired point in time by invoking a DB2 Log Analysis Tool session within a DB2 Object Restore V1.3 object recovery session. DB2 Log Analysis Tool makes it possible to quickly identify changes made to data (with filtering that provides focus on criteria such as dates, users, specific objects, and more), establish a point in time to which one or more tables should be rolled forward or backward, and generate the necessary SQL and JCL to complete the recovery.

- **DB2 Table Editor**
  Any table that is listed within a DB2 Object Restore session and has not been dropped may be immediately edited by invoking a DB2 Table Editor session. This option allows database administrators to inspect tables and quickly make data modifications that may be related to recovery of other objects.

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**IBM Database Tools for Performance Management**

**DB2 Buffer Pool Analyzer for z/OS, V1.2 contains:**

- All the buffer pool analysis functions of DB2 Performance Expert for z/OS, V1.1, refer to Software Announcement 202-048, dated March 5, 2002, including:
  - The key benefits of Specificity, Reliability, Flexibility, Comprehensiveness, and Investment Protection

**Enhancements**

- Support is provided for object placement, including support of inactive objects (tablespaces and buffer pools).
  - The algorithms used for object placement within a buffer pool categorize each DB2 tablespace and index according to its data access patterns. The more you separate sequential processing from random processing, the more benefit you get. To achieve this, you can adjust the sequential threshold of each buffer pool. You can also separate DB2 tables and indexes into separate buffer pools that have sequential and random data access. The last method can have a more positive impact on overall buffer pool efficiency.
  - Expert analysis is available through an easy-to-use wizard that runs on a workstation and guides you through the process of object placement.

- **Improved reporting:**
  - Several comprehensive reports are provided which you can browse or print.
  - Reports support inactive objects (tablespaces and buffer pools). To take into account all objects and buffer pools (not only those with activity during the tracing period), information is added to the FILE information to be considered for object placement analysis.
  - Buffer Pool Activity reports provide summary and detail reports that now include buffer pool characteristics (System Parameters from IFCID 202).

  - Simulation reporting has been upgraded by:
    - Improving readability
    - Consolidating and restructuring
  - Batch trace collection is provided in addition to ISPF Collect Report Data. You can collect data through the process of object placement.

  - Use the ISPF online mode if you want to see status information about data collection.
  - Use the batch mode if you want to perform data collection offline, especially if you collect data for a day or longer.

  - The usability of the workstation client has been improved by providing:
    - Upgraded dialogs for easier simulation parameter input and object-to-buffer-pool assignment
    - Easier navigation within reports: When you open a simulation report, your default Web browser shows the corresponding report. You can navigate through the report using hyperlinks or
DB2 Performance Monitor for z/OS, V7.2 contains:

- All the performance monitoring functions of DB2 Performance Expert for z/OS, V1.1, refer to Software Announcement 202-048, dated March 5, 2002, including:
  - Performance Warehouse without accounting Expert Analysis
  - The key benefits of Specificity, Reliability, Flexibility, Comprehensiveness, and Investment Protection

Enhancements

- Support of DBM1 Storage Statistics (new IFCIDs 225 and 217)
  - Many installations are running near the 2 GB limit for the DBM1 address space. You may soon be pushing this limit due to rapid growth caused by things like Web access to DB2. To prevent DB2 outages due to out of storage conditions, you and IBM specialists need the ability to more effectively monitor DBM1 storage usage so that actions can be taken to alleviate or avoid storage shortage conditions.
  - IFCID 0217 and IFCID 225 have been added to report DBM1 storage consumption statistics at the DB2 statistics interval. IFCID 217 will produce a detail report of activity on a per PHB basis, and IFCID 225 will produce a summary report of the storage usage in the DBM1 address space. The DB2 Performance Monitor Statistics Report and Record Trace now show this valuable information. The Statistics Report needs the new command option DSETSTAT specified to show this data in the report.

- DB2 Performance Monitor may be launched from the DB2 Administration Tool Launchpad using the ISPF interface.

- Performance Warehouse now supports queries and accounting rules of thumb.
  - Performance Warehouse provides a process oriented view of performance analysis tasks. It allows you to automate tasks that previously required user interaction, such as loading DB2 data into a performance database or generating reports.
  - Rules of thumb apply a few simple rules and ratios to key performance indicators. The sample rules of thumb delivered with the product have been assembled by DB2 experts in the field over many years and have proven to be valuable criteria by which to measure the performance of applications in DB2 systems. Recommended actions are provided to respond to the Rules of Thumb analysis step finding a warning or problem.
  - You can use the query facility to define performance management queries to be run on the STATISTICS and ACCOUNTING tables in the performance database. For example, accounting tables contain performance data that shows how many resources are consumed by applications. Appropriate queries on the ACCOUNTING table can help you improve performance. A set of queries is provided, but you can also define and save your own queries.

- You can drill down in thread details for active parallel threads.
- You can monitor long running SQL statements by elapsed time, CPU time and resource consumption, since additional information, such as times, getpages, read I/O, and last object accessed, is displayed in Online Monitor for the currently executing SQL statement.
- Display of locking conflicts:
  - Provides a sysplex-wide display of locks on resources and thread levels. It shows the holder and the waiters for a specific resource.
  - Allows you to cancel threads and access thread details.
- With SQL activity tracing of currently executing threads you can:
  - Create traces on the DB2 subsystem-wide SQL activity that takes place during the processing of a DB2 application
  - View the SQL activity of a single thread and all threads with the same LUWID, and create SQL activity traces
  - View trace status during data collection
  - Save for later processing the job summary data set and DPMLOG data set that accompany the traces
  - View reports in a browser window immediately after the trace collection was terminated
- Support has been provided to store SYSPARM data in the performance database. The performance database of DB2 Performance Monitor has been extended with new tables, which correspond to the IFCIDs used in the DB2 Performance Monitor System Parameter Report (IFCIDs 106, 201, 202, 230, 256).
- Enterprise-wide exception processing provides:
  - In addition to the individual threshold-based periodic exception processing, the definition of an enterprise-wide threshold set, which can be used in periodic exception processing automatically started with the Data Collector startup.
  - These exception alerts can be routed to a user exit for subsequent processing and will be saved in an exception log file.

Workstation Client Improvements

- Improved performance, consistency, and stability
- Additional support for Windows® 2000 and Windows XP
- Multiple logon and multiple launch in the workstation GUI
- Management of subsystems (import, export configurations)
- Configuration dialog (diagnostic trace and accessibility characteristics)
- Multi-line window box for SQL statement display
- Redesign of System Health (data views, enhanced graphical representation of counters, configurable desk)
- Rework of Online Monitor Filter/Qualify dialog
- Accessibility improvements
Section 508 of the U.S. Rehabilitation Act

The products in this announcement are capable as of their general availability, when used in accordance with IBM’s associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

Value Unit Based Pricing

Value Unit based pricing will help to align the prices of these products to the principle of the PSLC pricing curve, which provides for a lower price per MSU (millions of service units per hour) for larger capacities.

There is also be a price benefit when customers grow their capacity. Additional capacity will be based on the number of Value Units (MSUs) the customer has already installed, for example, additional capacity will not be priced starting at the base with a higher price per unit but on the capacity that is already installed.

Note that Value Units of a given product cannot be exchanged/interchanged/aggregated with Value Units of another product.

IBM International Program License Agreement (IPLA) and Subscription and Support Considerations

IPLA licenses can be transferred from one machine to another within, but not limited to an enterprise. The customer may aggregate the capacity for all the processors the product is operated on to achieve a more economic price. This will result in a single Proof of Entitlement. It is the customer’s responsibility to manage the distribution of Value Units within the limits of the entitlement of the product license.

Subscription and Support must cover the same capacity as the product license entitlement. Subscription and Support will be available in the country in which the agreement is made.

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Offering Information

Product information is available through Offering Information (OITOOL) at:

http://www.ibm.com/common/ssi

Publications

The IBM Publications Center:

http://www.ibm.com/shop/publications/order

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The IBM Publications Notification System:

http://service5.boulder.ibm.com/pnsrege.nsf/messages/welcome

The Publications Notification System (PNS) enables subscribers to set up profiles of interest by order number/product number. PNS subscribers automatically receive notifications by e-mail of all new publications defined in their profiles. These may then be ordered/downloaded via the Publications Center.

One copy of the following publications is supplied automatically with the basic machine-readable material.

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<th>Order Number</th>
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<td>GC27-1190</td>
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<td>DB2 Buffer Pool Analyzer for z/OS, V1.2 (5655-E54)</td>
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<td>DB2 Performance Monitor for z/OS, V7.2 (5655-E61)</td>
<td>GC27-1089</td>
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The following publications cannot be ordered in hardcopy. The publications are made available on the Web at:

http://www.ibm.com/software/data/db2imstools

The following publications are available on the Internet at:

http://www.ibm.com/software/data/db2imstools

Overview brochure

- IBM Tools for DB2 and IMS™ for z/OS and OS/390 (GC27-1070)

Specification Sheets

- IBM DB2 Automation Tool (GC27-1048)
- IBM DB2 Buffer Pool Analyzer (GC27-1082)
- IBM DB2 Log Analysis Tool (GC27-1043)
- IBM DB2 Object Restore (GC27-1041)
- IBM DB2 Performance Monitor (GC27-1049)

Specification Sheets, User’s Guides, and White Papers are also available on CD-ROM (GK3T-7099).

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: http://www.ibm.com.
Technical Information

Specified Operating Environment

Hardware Requirements: The products in this announcement will operate on any hardware configuration that supports the required versions of DB2.

Software Requirements: The products in this announcement require DB2 V6, or later.

- DB2 V6 (5645-DB2)
- DB2 V7 (5675-DB2)

DB2 Log Analysis Tool for z/OS, V1.3 requires support for Unicode for OS/390 (5647-A01) or z/OS (5694-A01). Unicode support is available for Web download for OS/390 V2.10 and z/OS V1.1. It is integrated into z/OS starting with V1.2.

Planning Information

Packaging: The programs in this announcement are distributed with the following content:

- Basic machine-readable material on a 3480 tape cartridge
- Program Directory
- Proof of Entitlement (PoE)
- IBM International Program License Agreement (IPLA)
- License Information

Security, Auditability, and Control

The announced programs use the security and auditability features of the host operating system software.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering Information

The products in this announcement have one charge unit: Value Unit.

Value Unit-based pricing will help to align the prices of these products to the principle of the PSLC pricing curve which provides for a lower price per MSU (millions of service units per hour) for larger capacities.

There is also a price benefit when customers grow their capacity. Additional capacity will be based on the number of Value Units (MSUs) the customer has already installed, for example, additional capacity will not be priced starting at the base with a higher price per unit but on the capacity that is already installed.

Note that Value Units of a given product cannot be exchanged, interchanged, or aggregated with Value Units of another product.

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<tbody>
<tr>
<td>Base</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>MP3000 H50</td>
<td>6</td>
</tr>
<tr>
<td>PSLC / Level A</td>
<td>4</td>
<td>45</td>
<td>0.45</td>
<td>H50</td>
<td>8</td>
</tr>
<tr>
<td>PSLC / Level B</td>
<td>166</td>
<td>175</td>
<td>0.36</td>
<td>H70</td>
<td>12</td>
</tr>
<tr>
<td>PSLC / Level C</td>
<td>176</td>
<td>315</td>
<td>0.27</td>
<td>ESL Models</td>
<td>2</td>
</tr>
<tr>
<td>PSLC / Level D</td>
<td>316</td>
<td>+</td>
<td>0.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Value Units for IBM 9672 Processors will be based upon the full capacity of these systems. This is applicable to all S/390®-based systems that are measured on MSU capacity. Information on MSU capacities can be found in the IBM System/370™, System/390®, and zSeries™ Machine Exhibit, Z125-3901.

Value Units for zSeries will be based upon full MSU capacity as defined in the Machine Exhibits.

There will be a tool available that provides support for transforming the MSU-based capacities of S/390 systems to new Value Units by calculating the applicable number of Value Units for a given number of MSUs.

Translation from MSUs to Value Units Example

<table>
<thead>
<tr>
<th>MSUs</th>
<th>Value Units/MSU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>1.00</td>
</tr>
<tr>
<td>Tier A</td>
<td>.45</td>
</tr>
<tr>
<td>Tier B</td>
<td>.36</td>
</tr>
<tr>
<td>Tier C</td>
<td>.27</td>
</tr>
<tr>
<td>Tier D</td>
<td>.20</td>
</tr>
</tbody>
</table>

Total 284

Note: For the actual translation from MSUs to Value Units for this product, see below.

Ordering Example: The total number of Value units is calculated according to the following example.

If the customer has installed 1,200 MSUs, the applicable Value Units would be:

Translation from MSUs to Value Units

<table>
<thead>
<tr>
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<th>Value Units/MSU</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Tier A</td>
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</tr>
<tr>
<td>Tier B</td>
<td>.36</td>
</tr>
<tr>
<td>Tier C</td>
<td>.27</td>
</tr>
<tr>
<td>Tier D</td>
<td>.20</td>
</tr>
</tbody>
</table>

Total 284

When calculating the total number of Value Units, the sum is to be rounded up to the next integer.

Example: For a product running on machines with 1,200 MSUs requiring 284 Value Units, order feature number 0001, quantity 34 and feature number 0002, quantity 1.
**Basic License:** To order, specify the program number, feature number 9001 for asset registration, and the one-time charge (OTC) feature number. Also specify the feature number of the desired distribution medium. To suppress shipment of media, select the license-only option in CFSW.

**Translation from MSUs to Value Units**

<table>
<thead>
<tr>
<th>Base</th>
<th>MSUs</th>
<th>Value Units/MSU</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td>Tier A</td>
<td>45</td>
<td>0.50</td>
</tr>
<tr>
<td>Tier B</td>
<td>175</td>
<td>0.36</td>
</tr>
<tr>
<td>Tier C</td>
<td>315</td>
<td>0.27</td>
</tr>
<tr>
<td>Tier D</td>
<td>316+</td>
<td>0.20</td>
</tr>
</tbody>
</table>

The ordering information is not changed for the products and their Subscription and Support licenses in this announcement from prior releases.

**Subscription and Support**

To receive voice technical support via telephone during normal business hours, and future releases and versions at no additional charge, Subscription and Support must be ordered. The capacity of Subscription and Support (Value Units) must be the same as the capacity ordered for the product licenses.

To order, specify the program number and feature number 9001 for asset registration. IBM is also providing subscription and support for these products via a separately purchased offering under the terms of the IBM International Agreement for Acquisition of Support (IAAS). This offering:

- Includes and extends the support services provided in the base support to include technical support via telephone during normal business hours.
- Entities customers to future releases and versions at no additional charge. Note that customers are entitled only for new releases and versions, not new products.

Once subscription and support is ordered, the charges will renew automatically annually unless cancelled by the customer.

**Single Version Charging:** To elect single version charging, the customer must notify and identify to IBM the prior program and replacement program and the machine the programs are operating on.

**Customized Offerings**

Product media is shipped only via Customized Offerings (for example, CBPDO, ServerPac, SystemPac®). Non-customized items (CDs, diskettes, source media, media kits) will continue to be shipped via the stand-alone product.

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**Terms and Conditions**

**Sub-Capacity Charges Terms and Conditions**

IBM @server ZSeries software charges at less than full machine capacity for eligible Data Management (DM) and Application Development (AD) Tools apply when z/OS is running in z/Architecture™ (64 bit) mode on a ZSeries 900, no other MVS™-based operating system is licensed to that server and the required information is provided by the customer in accordance with the applicable terms.

Sub-capacity charges for an eligible AD or DM Tool is based on the z/OS product-defined capacity. To obtain charges at less than full machine capacity for eligible AD and DM tools, the customer is required to:

- Determine the MSUs needed for each machine on which the tools will run. Only machines on which the customer has implemented sub-capacity Workstation License Charges (WLC) according to the above terms and conditions, are eligible for charges at less than full machine capacity for the tools.
- Use the product-defined capacity for z/OS (as specified on the Sub-Capacity Reports submitted to IBM for sub-capacity WLC) as the sub-capacity (MSUs) for each tool.
- Submit any additional MSUs and/or Value Units required for each product along with the current entitlement in Value Units for each product.

**Sub-Capacity Charges for AD and DM Tools**

To be eligible for sub-capacity charges for AD and DM Tools, the machine on which the AD and DM Tools are running must be eligible for WLC sub-capacity charges terms and conditions. The customer must have signed the Attachment for zSeries Workload License Charges-Pre-ILM, Z125-6516, and submitted at least one Sub-Capacity Report to IBM as defined in the attachment.

With sub-capacity charges, the charge for an eligible AD or DM Tool is based on the z/OS product-defined capacity. To obtain charges at less than full machine capacity for each eligible AD and DM Tool for each machine, the customer should:

- Determine the MSUs needed for the machine on which the tools will run. In a data sharing environment, determine the aggregate MSUs needed on the machine where the tools run. Use the product-defined capacity (MSUs) for z/OS (as specified on the Sub-Capacity Reports submitted to IBM for sub-capacity WLC) as the sub-capacity (MSUs) for each Tool.
- Submit any additional MSUs and/or Value Units required for each product along with the current entitlement in Value Units for each product.

If the use of sub-capacity pricing terms for AD and DM Tools results in a reduced requirement for Value Units, thus freeing up entitlements, customers can reallocate the entitlement difference by distributing the Value Units across a larger or different set of systems, or reserve them for future growth. There will be no refunds for these freed up Value Units. Subscription and Support volumes and entitlements for existing contracts will continue to be at the same levels as the acquired licenses.
Management of the Value Unit entitlements continues to be a customer responsibility. If one of the following occur on a machine to which AD or DM Tools are licensed, the customer must determine if additional Value Units and Subscription and Support need to be ordered for those tools to cover the increase:

- The z/OS product-defined capacity is increased.
- The requirements for WLC sub-capacity charges are no longer met.

**Licensing:** IBM International Program License Agreement (IPLA). Proofs of Entitlement (PoE) are required for all authorized use.

The following agreements apply for maintenance and do not require customer signatures:

- IBM Agreement for Acquisition of Support (Z125-6011)

These products are licensed under the IPLA, and the associated Agreement for Acquisition of Support, and the Addendum for Support Z125-6336, which provides for support with ongoing access to releases and versions of the program. These programs have a one-time license charge for use of the program and an ongoing recurring charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours) as well as access to updates, releases, and versions of the program as long as support is in effect. S/390 and zSeries IBM Operational Support Services — Support Line is an option for those customers who desire added services.

**Limited Warranty Applies:** Yes

**Program Services:** This program has program services for a minimum of one year from acquisition from IBM or authorized business partner.

**Program Support:** Enhanced Support, called Subscription and Support, includes telephone assistance (voice support for defects during normal business hours) as well as access to updates, releases, and versions of the program as long as support is in effect. The customer will be notified of discontinuance of support with 12 months notice. These programs have program services for a minimum of one year from acquisition from IBM or authorized Business Partner. Customers will be notified of discontinuance of support with 12 months’ notice.

To receive voice technical support via telephone during normal business hours, and future releases and versions at no additional charge, Subscription and Support must be ordered.

**Money-Back Guarantee:** If for any reason you are dissatisfied with the Program, return it within 30 days from the invoice date, to the party (either IBM or its reseller) from whom you acquired it, for a refund. This applies only to your first acquisition of the Program.

**Copy and Use on Home/Portable Computer:** No

**Volume Orders (IVO):** No

**Passport Advantage Applies:** No

**Software Maintenance Applies:** No

For Operating System software, the revised IBM Operational Support Services — Support Line offering will provide support for those operating systems and associated products that are not available with the newly announced Software Maintenance offering. This will ensure total support coverage for your enterprise needs, including IBM and selected non-IBM products. For complete lists of products supported under both the current and revised Support Line offering, refer to our Web site at:


For additional information on the revised IBM Operational Support Services, refer to Services Announcement 601-023, dated July 10, 2001.

**IBM Operational Support Services — Support Line:** Yes

**AIX®/UNIX® Upgrade Protection Applies:** No

**Entitled Upgrade for Current AIX/UNIX Upgrade Protection Licensees:** No

**iSeries™ Software Subscription Applies:** No

**Variable Charges Apply:** No

**Educational Allowance Available:** Yes, 15% education allowance applies to qualified education institution customers.

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### Prices

The ordering information and prices for the products and their subscription and support licenses in this announcement are not changed from the prior releases.

### Global Financing

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Atlanta, GA 30301-2690

**Reference:** LE001

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