IBM DB2 Intelligent Miner Multiprocessor Solution V1.1 — Better Decision Making in Customer-Time

Overview
The DB2® Intelligent Miner™ Multiprocessor (IM MP) Solution combines proven Intelligent Miner technology with the parallel database access capabilities of DB2 Universal Database® (UDB) to meet the demands of large-scale mining. This solution offers four processor licenses for each of the following products: DB2 Intelligent Miner for Data (IM for Data) V6.1.1, DB2 Intelligent Miner Scoring (IM Scoring) V7.1, and DB2 UDB Enterprise — Extended Edition (DB2 UDB EEE) V7.2.

To harvest business intelligence from enterprise data, use IM for Data, a full-function workbench for interactive data mining. IM for Data delivers a wide range of mining technologies, including clustering, associations discovery, sequential patterns, and a variety of classification and predictive operations. Analytic models are delivered for deployment as standard Predictive Model Markup Language (PMML) V1.1 models — a new industry standard defined by the Data Mining Group (refer to http://www.dmg.org).

To apply data mining analytics in "customer time," look no further than IM Scoring, an easy-to-use mining deployment capability. With IM Scoring, line-of-business applications can influence the handling of transactions as they occur, based on the most timely business intelligence. IM Scoring provides software vendors and application developers with a standard interface to more efficiently integrate data mining tools and applications.

DB2 UDB is the industry’s first multiplatform, multimedia, Web-ready relational database management system that allows you to integrate a wide variety of information types throughout your company. DB2 provides industry-leading performance, reliability, and scalability to support your most demanding e-business solutions.

Intelligent Miner support for SAP Business Warehouse: Users mine SAP Business Warehouse data with seamless access to Intelligent Miner algorithms and visualizers. The DB2 Intelligent Miner integrated support for SAP Business Warehouse is not supported for the DBCS languages.

Intelligent Miner support for Siebel Marketing: Users mine customer information in the Siebel Data Mart and produce customer scores, which are fed back to Siebel Marketing via the Siebel Analytic Adaptor.

QMF™ for Windows®, V7.2 supports IM Scoring: IM Scoring enables QMF users to improve the quality and timeliness of business intelligence available to analysts. An evaluation copy of QMF for Windows, V7.2 is included with the solution.

Beta for DB2/390 Performance Mining: Administrators can increase DB2 analysis capabilities to better optimize and tune DB2 performance by mining data captured by DB2 for z/OS® and OS/390® performance monitoring tools.

Beta for PMML V2: Intelligent Miner extensions to support PMML V2 increase mining functionality as well as provide opportunities for increased vendor interoperability.

Software Service Extension: IBM is also announcing extension of service for:

At a Glance
The DB2 Intelligent Miner Multiprocessor (IM MP) Solution V1.1, enables users to:

- Know the business, know the customer
  - Profile customers, stores, suppliers, products
  - Detect transaction patterns, exceptions, anomalies
  - Predict profitability, attrition, propensity to buy

- Mine data interactively
  - Prepare, mine, and analyze data
  - Mine large databases, subsets, or samples
  - Leverage DB2 for parallel data access
  - Leverage Intelligent Miner for parallel mining

- Deploy to core business applications
  - Rank, classify, or predict
  - Score a single case in customer time
  - Score all database rows en masse
  - Manage models in PMML

Key Prerequisites
For details, refer to the Hardware Requirements and Software Requirements sections.

Planned Availability Date
May 31, 2002

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.
The DB2 Intelligent Miner Multiprocessor (IM MP) Solution combines proven Intelligent Miner technology with the parallel database access capabilities of DB2 Universal Database to meet the demands of large-scale mining. This solution offers four processor licenses for each of the following products:

- DB2 Intelligent Miner for Data (IM for Data) V6.1.1
- DB2 Intelligent Miner Scoring (IM Scoring) V7.1
- DB2 Universal Database Enterprise —Extended Edition (DB2 UDB EEE) V7.2

**IM for Data V6.1.1**

IM for Data can identify and extract high-value business intelligence from enterprise data assets, including high-volume transaction data generated by point-of-sale, ATM, credit card, call center, or e-commerce applications, to name a few. Analysts are empowered to discover patterns, which might otherwise be unobserved, across volumes of data they were simply not able to penetrate with other types of analytical tools. Decision makers will be better equipped to make more intuitive, yet strategic decisions — whether the problem is how to improve customer satisfaction, improve profitability, or reduce the risk of fraud abuse.

The objective of the Intelligent Miner is to expedite the information discovery operation while maintaining the quality of the extracted information and enabling the decision-maker to take advantage of niche, emerging opportunities.

The Intelligent Miner is a suite of tool functions that support data mining operations and deploy a variety of techniques to:

- Create classification and prediction models
- Discover associations and sequential patterns in large databases
- Automatically segment databases into groups of related records
- Find similar patterns of behavior within time sequences

These functions are implemented in a consistent manner and accessible interactively by the data analyst or by decision support applications via a published API. The data mining process is iterative and functions can be used independently or in combination to produce the desired result. Analysis of mined results may result in the repetitive execution of the same or altered mining operation.

**Innovative Technology:** Central to IM for Data are its data mining algorithms, developed in IBM research laboratories, proven in customer installations worldwide, and recognized for their depth of function and breadth of coverage. Applicable to a wide range of business problems, the algorithms can be employed to facilitate decision-making in business areas such as campaign management, customer attrition analysis, process reengineering, product planning and fulfillment, fraud and abuse management, and e-commerce. Four operations are associated with discovery-driven data mining:

1. Creation of prediction and classification models — to use the contents of the database, which reflect historical data, for example, data about the past, to automatically generate a model that can predict a future behavior.
2. Link analysis — to establish relations between the records in a database.
3. Database segmentation — to partition databases into collections of related records either as a means of obtaining a summary of each database, or before performing a data mining operation such as model creation, or link analysis.
4. Deviation detection — to identify outlying points in a particular data set, and explain whether they are due to noise or other impurities being present in the data, or due to causal reasons.

IM for Data provides a complete data mining environment to perform these operations by giving you the following techniques:

- Associations — From a database of transactions, discover how frequently one set of items implies the presence of other items in a given transaction. Associations enable you to discover product associations in a market basket analysis, site visit patterns for an e-commerce site, and combinations of financial offerings purchased in different geographical areas.
- Sequential patterns — From a database of transactions, identify and determine which sets of items in a transaction are related to transactions containing other sets of items during a specified time period. Sequential patterns reveal buying in a series of purchases made or multiple Web site visits over time.
- Clustering — From a database of records, partition the database so that records that have similar characteristics are grouped together. Clustering can be used for market segmentation, store profiling, and to reveal buying behavior. The techniques provided are:
  - Segmentation with similarity measure
  - Neural segmentation
- Similar time sequences — From a database of time-stamped transactions, find time sequences similar to a given one, or find sets of similar time sequences.
- Classifications — From a database of records that describe the results of actions in terms of classes, automatically create a model that can predict the classes of new actions. Classification techniques enable you to profile customers based on a desired outcome, such as propensity to buy high-end electronics, likelihood to attrit, level of credit risk. The techniques offered are:
  - Decision-tree classification
  - Neural classification
- Fitting and prediction — From a database of records, discover the dependency of one specific value upon other values of a record. A model is then created that can be used to predict automatically the outcome based on other values of new records. Predictive algorithms can be used to score customers by factors such as likelihood of fraud, life expectancy, profitability. The techniques provided are:
  - RBF (Radial Basis Function) Prediction
  - NN Prediction
  - Polynomial Regression Prediction
In-Database Mining: Mining operations can be performed directly on DB2 databases, flat files, or any of a variety of data sources supported by the DB2 UDB program’s federated data access, such as OLE DB data sources, or Oracle or Terradata databases. Parallel DB2 processing can be leveraged in combination with the deployment of Intelligent Miner’s parallel data mining capabilities for large-scale mining runs.

Supported Platforms: IM for Data V6.1.1 supports execution on AIX®, Windows, and Solaris servers, with client support for AIX and Windows. Parallel mining is supported on these platforms for both SMP and MPP configurations, as is access to additional data sources through use of DB2 DataJoiner, DB2 Relational Connect, or DB2 Connect.

For more information about IM for Data, refer to the IM for Data Web site at:

http://www.ibm.com/software/iminer/fordata/

IM Scoring V7.1

IM Scoring is an economical and easy-to-use mining deployment capability. It enables users to incorporate mining analytics into BI, e-commerce, and OLTP applications. Applications score records — to segment, classify, or rank the subject of those records — based on a set of predetermined criteria expressed in a data mining model. These applications can better serve business and consumer users alike — to provide more informed recommendations, to alter a process based on past behavior, to build more efficiencies into the online experience; to, in general, be more responsive to the specific situation at hand.

IM Scoring supports clustering, classification, and regression scoring functions.

- Clustering includes demographic and neural clustering.
- Classification includes tree and neural classification.
- Regression includes Radial Basis Functions (RBF) prediction, neural prediction, and polynomial regression.

Designed to score operational data, implementations for DB2 UDB extenders and Oracle cartridges are provided. Data mining models can be developed using IM for Data V6.1.1. All scoring functions offered by the IM for Data V6.1.1 are supported by IM Scoring.

As trends change or new information becomes available, the data mining models used by IM Scoring can be updated dynamically, allowing continuous improvement in business results without disrupting production systems by regenerating and promoting mining models.

Because IM Scoring eliminates the need for developers to program to low-level proprietary APIs or understand arcane data formats, it is easier for them to deploy advanced mining analytics in business intelligence and operational applications. Built as user-defined extensions, the new scoring functions directly integrate data mining technology into the relational database management system for rapid application development and deployment, and leverage underlying DB2 capabilities for faster application performance.

IM Scoring provides the infrastructure necessary to deploy data mining analytics in enterprise applications and manage the promotion of data mining models. Central to this infrastructure is PMML (Predictive Model Markup Language), the new industry standard for data mining models. The Data Mining Group (refer to http://www.dmg.org), working with representatives from the data mining software industry and from academia, defined this standard to easily create and share models. PMML is an XML-based language that provides applications with a vendor-independent method of defining predictive models. As a result, proprietary incompatibilities will no longer be a barrier to the exchange of models between applications. Predictive models express the patterns of information discovered in data mining.

The programming interface for IM Scoring is designed in accordance with the International Organization for Standardization’s (ISO) SQL Multimedia and Application Packages — Part 6: Data Mining” draft recommendations for accessing data mining functionality through SQL. The ISO standard is comprehensive and will likely result in minimal impact on the overall structure of SQL. In a nutshell, there are new data types and functions introduced to handle:

- Importation and storage of PMML models (as large objects)
- Preparation of user data to be processed by the models
- Application of those models
- Post-application extraction of results

A Typical Customer Scenario: Iteratively develop a data mining model using one of the following algorithms of IM for Data V6.1.1:

- Demographic and neural clustering
- Tree and neural classification
- RBF and neural prediction
- Stepwise polynomial regression

When finalized, export the data mining model (the IM for Data result file) to a file.

Install IM Scoring V7.1 on the system where scoring is to be performed as an add-on service to the database management system (DBMS). This target system can be different from the one used to develop the model; IM for Data is not required for the execution of IM Scoring. The database extenders of IM Scoring — DB2 Extenders® or Oracle cartridges — are installed on the target database servers according to the installation procedures of the respective DB2 or Oracle DBMS.

Transfer the IM for Data result file to the target system. Using IM Scoring utility functions, convert it to a PMML 1.1-compliant eXtensible Markup Language (XML) format and store the XML object in a database table. Once the model is loaded into a database, it can be applied to compatible records in the database by the IM Scoring functions.

Score the data by invoking an SQL statement. The SQL statement names the IM Scoring function to be executed and identifies the mining model for scoring the data. The DB2 or Oracle SQL statement is expressed per the ISO standards for custom data mining extenders. Invocation of the IM Scoring functions will be performed by the respective DBMS.

Supported Platforms: IM Scoring V7.1 provides DB2 extenders for AIX, Windows, Solaris, and Linux servers. Users benefit from DB2 parallel processing to score large volumes of data, and from DB2 Connect®, DB2 Relational Connect, or DB2 DataJoiner to transparently access other relational data sources.
More Information: For more information on IM Scoring V7.1, refer to Software Announcement 201-069, dated March 20, 2001, or the IM Scoring Web site at:
http://www.ibm.com/software/data/iminer/scoring/

DB2 UDB EEE V7.2

DB2 UDB EEE provides a high-performance mechanism to support large databases and offers greater scalability in massively parallel processors (MPPs) or clustered servers. DB2 UDB EEE is ideal for applications requiring parallel processing, particularly data warehousing and data mining.

DB2 UDB V7 highlights include:

- The first database certified for Microsoft Windows 2000 Server.
- A rich set of DB2 Extenders allowing you to bring multiple data types together in one SQL query and manipulate them with powerful built-in functions.
- The first relational database management system with integrated in-memory text search capabilities delivered with the new DB2 Net Search Extender.
- Deeper support for XML, including tools to assist with parsing XML documents into parts stored in DB2 tables.
- Optimized and simplified access to federated data sources.
- Ability to access data with distributed queries in any DB2 database, in OLE DB data sources, and in Oracle databases.
- Native interface to OLE DB data sources. DB2 can serve as an OLE DB consumer and provider.
- DB2 as the database for the Web generation. The Web is the platform of choice for distributing business information to the enterprise and beyond.
- Simplified DB2 application development with support for VisualAge® and tighter integration with Microsoft® Visual Studio.
- Strengthened support for Java™ Transaction APIs and JDBC 2.0 specification.
- A driver for the Perl Database Interface (DBI) that provides database access for applications written in the Perl language.
- Application Development documents and update information for DB2.
- Instructions and examples for using DB2 with Lotus®.
- The Data Warehouse Center, which implements the Object Management Group Common Warehouse Metadata Interchange, the new standard for integrating diverse tools into business intelligence solutions.
- DB2 Warehouse Manager, a new feature of DB2, uniquely integrates governing, resource management, and usage tracking.
- DB2 OLAP Server®, with Hyperion Essbase V6, scales to handle the analytical requirements for demanding e-commerce and customer relationship management (CRM) applications.

For complete details on the features and benefits, refer to Software Announcement 201-128, dated April 24, 2001, or the DB2 UDB Web site at:
http://www.ibm.com/db2

QMF for Windows for DB2 Workstation Databases, V7.2

QMF for Windows for DB2 Workstation Databases, V7.2 is a multipurpose enterprise query environment for large-scale business reporting, data sharing, server resource protection, powerful application development, and native connectivity to all of the DB2 workstation platforms, including Linux on S/390® platforms.

QMF for Windows gives you an intuitive “quick start” interface to build queries and business reports and share them with other QMF users. Java-based query allows users to create queries or execute pre-defined queries. An easy-to-use point-and-click, drag-and-drop interface to QMF Form creation allows aggregation, grouping, and formatting to be performed directly in the query result.

IM Scoring enables QMF for Windows users to improve the quality and timeliness of business intelligence available to analysts. Using the new QMF for Windows V7.2 Expression Builder, you can easily invoke IM Scoring to apply the latest mining analytics in real time.

Behind the scene, mining is used to analyze large volumes of data to discover the latest business trends or patterns. The results are represented in a model—think of the model as a set of rules or a formula for predicting the most likely outcome based on past history. The new V7.2 Expression Builder helps QMF users build the SQL expression to invoke IM Scoring, which, in turn, applies these rules to new business situations. For example, to:

- Apply the most appropriate marketing tactics for a new customer situation
- Identify cross selling opportunities for preferred customers
- Perform™ credit risk assessment “on the fly”
- Predict propensity to buy, probability of abuse, likelihood of customer attrition

For more information concerning QMF for Windows for Workstation Databases, V7.2, refer to Software Announcement 202-045, dated February 26, 2002, or the QMF Web site at:
http://www.ibm.com/qmf

Pulling It All Together: IBM provides complete customer data mining solutions. In addition to the hardware and software offerings (including database, data warehouse, and analysis offerings), to provide the necessary Business Intelligence infrastructure. Experienced IBM consultants are available to identify and implement data mining applications, complementing customer resources. IBM solutions services are available to support all phases of solution development, from inception through deployment, and can include education and training.

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Offering Information

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

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

Publications

The following publications can be ordered immediately. To order, contact your IBM representative.

<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
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<tbody>
<tr>
<td>IBM DB2 Intelligent Miner™ for Data</td>
<td>SH12-6394</td>
</tr>
<tr>
<td>Using the IBM Intelligent Miner for Data</td>
<td>SH12-6396</td>
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<tr>
<td>Using the Associations Visualizer</td>
<td>SH12-6395</td>
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<tr>
<td>Application Programming Interface and Utility Reference</td>
<td></td>
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<tr>
<td>IBM DB2 Intelligent Miner Scoring</td>
<td>SH12-6719</td>
</tr>
<tr>
<td>Administration and Programming for DB2</td>
<td></td>
</tr>
<tr>
<td>Administration and Programming for Oracle</td>
<td>(Available in softcopy only)</td>
</tr>
<tr>
<td>IBM DB2 UDB Enterprise Extended Edition</td>
<td></td>
</tr>
<tr>
<td>DB2 Enterprise Extended Edition for NT Quick Beginnings</td>
<td>GC09-2963</td>
</tr>
<tr>
<td>DB2 Enterprise Extended Edition for UNIX® Quick Beginnings</td>
<td>GC09-2964</td>
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<tr>
<td>DB2 UDB Administration Guide: Planning</td>
<td>SC09-2946</td>
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<tr>
<td>DB2 SQL Getting Started</td>
<td>SC09-2973</td>
</tr>
<tr>
<td>DB2 What’s New</td>
<td>SC09-2976</td>
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Displayable Softcopy Publications: Publications are included in softcopy form on the CD-ROMs.

The displayable manuals can be viewed using an HTML browser and Adobe’s Acrobat Reader installed on your system. There is also a separate publications CD-ROM for DB2 publications, where PDF versions of the library can be viewed or printed. These files can produce high-quality reproductions of the documentation on local laser printers.

All major manuals are provided in hardcopy within the Passport Advantage Documentation Pack.

For more information about Database and Data Management publications, visit the Web site at:

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

Technical Information

Hardware Requirements

DB2 Intelligent Miner for Data (IM for Data) V6.1.1: IM for Data server software runs under the following operating systems:

- AIX®
- Microsoft™ Windows NT®/2000
- Sun Solaris

Supported clients are AIX and Windows® 95/98/NT/2000.

IM for Data — AIX Servers

The Intelligent Miner server for AIX runs on processors of the RS/6000® Systems family.

To run IM for Data on an AIX server, use the environment layer API or install one of the supported clients, either on the same machine or on a remote machine.

The required storage space varies with the amount of data processed per run. The following table shows the storage space needed.

<table>
<thead>
<tr>
<th>Storage Type</th>
<th>For Demonstration</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM</td>
<td>64 MB</td>
<td>128 MB</td>
<td>512 MB to 2 GB</td>
</tr>
<tr>
<td>Disk Space for AIX Server</td>
<td>75 MB</td>
<td>100 MB</td>
<td>100 MB + 200% of data</td>
</tr>
<tr>
<td>Disk Space for AIX Server including Client (Local Mode)</td>
<td>105 MB</td>
<td>130 MB</td>
<td>130 MB + 200% of data</td>
</tr>
<tr>
<td>Additional Disk Space for Toolkit</td>
<td>4 MB</td>
<td>4 MB</td>
<td>4 MB</td>
</tr>
<tr>
<td>Additional disk space for Parallel Server</td>
<td>25 MB</td>
<td>25 MB</td>
<td>25 MB</td>
</tr>
</tbody>
</table>

IM for Data — Sun Solaris Servers

The Intelligent Miner server for Sun Solaris runs on systems with Sun SPARC processors.

To run the Intelligent Miner on Sun Solaris, you must install one of the supported clients.

The required storage space varies with the amount of data processed per run. The following table shows the storage space needed.
For Demonstration | Required | Recommended
---|---|---
RAM | 128 MB | 128 MB | 512 MB to 2 GB
Disk Space for Sun Solaris Server | 80 MB | 80 MB | 80 MB + 200% of data
Additional Disk Space for Toolkit | 4 MB | 4 MB | 4 MB
Additional Disk Space for Parallel Server | 25 MB | 25 MB | 25 MB

### IM for Data — Microsoft Windows Servers

The Intelligent Miner server for Windows runs on systems with 586-166 MHz processors or higher.

To run the Intelligent Miner on Windows, you must install one of the supported clients, either on the same machine or on a remote machine.

The required storage space varies with the amount of data processed per run. The following table shows the storage space needed.

<table>
<thead>
<tr>
<th>Storage Type</th>
<th>For Demonstration</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM</td>
<td>128 MB</td>
<td>128 MB</td>
<td>512 MB to 2 GB</td>
</tr>
<tr>
<td>Additional Disk Space for Toolkit</td>
<td>4 MB</td>
<td>4 MB</td>
<td>4 MB</td>
</tr>
<tr>
<td>Additional Disk Space for Parallel Server</td>
<td>25 MB</td>
<td>25 MB</td>
<td>25 MB</td>
</tr>
</tbody>
</table>

**Note:** The disk space needed for demonstration purposes depends on the type of hard drive partition. The values shown above are valid for NTFS partitions. If you use a FAT partition, you need about twice as much disk space.

### IM for Data — AIX Clients

The Intelligent Miner for Data AIX client runs on processors of the RS/6000 Systems family.

These systems must be configured with at least one supported graphical display or an Xstation including a keyboard and a mouse.

The required storage space varies with the amount of data processed per run. The following table shows the storage space needed.

<table>
<thead>
<tr>
<th>Storage Type</th>
<th>For Demonstration</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM for AIX Client</td>
<td>32 MB</td>
<td>64 MB</td>
<td>64 MB</td>
</tr>
<tr>
<td>Disk space</td>
<td>85 MB</td>
<td>100 MB</td>
<td>&gt;100 MB</td>
</tr>
<tr>
<td>Additional disk space for Toolkit</td>
<td>4 MB</td>
<td>4 MB</td>
<td>4 MB</td>
</tr>
</tbody>
</table>

### IM for Data — Windows Clients

The IM for Data Windows client runs on a workstation with a 586-133 MHz processor, or higher.

The required storage space varies with the amount of data processed per run. The following table shows the storage space needed.

<table>
<thead>
<tr>
<th>Storage Type</th>
<th>For Demonstration</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM for Windows Client</td>
<td>64 MB</td>
<td>64 MB</td>
<td>64 MB</td>
</tr>
<tr>
<td>Disk space</td>
<td>50 MB</td>
<td>50 MB</td>
<td>&gt;60 MB</td>
</tr>
<tr>
<td>Disk space for Toolkit</td>
<td>60 MB</td>
<td>60 MB</td>
<td>&gt;60 MB</td>
</tr>
<tr>
<td>Disk space for Client including Toolkit</td>
<td>80 MB</td>
<td>80 MB</td>
<td>&gt;80 MB</td>
</tr>
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**Note:** The disk space needed for demonstration purposes depends on the type of hard drive partition. The values shown above are valid for NTFS partitions. If you use a FAT partition, you need about twice as much disk space.

### DB2 Intelligent Miner Scoring (IM Scoring), V7.1: IM Scoring on AIX

The following prerequisites are required:

- 60 MB of additional disk space in the /usr file system
- (On SP2® with DB2 Universal Database® Extended Enterprise Edition (EEE) installation, this disk space is required on each node.)
- At least 256 MB RAM

### IM Scoring on Sun Solaris

The following prerequisites are required:

- 60 MB of additional disk space in the /opt file system.
- At least 256 MB RAM.

### IM Scoring on Linux or Linux/390

The following prerequisites are required:

- 60 MB of additional disk space in the /usr file system.
- (On SP2 systems with DB2 EEE installation, this disk space is required on each node.)
- At least 256 MB RAM.

### IM Scoring on Windows

The following prerequisites are required:

- 30 MB of additional disk space
- At least 256 MB RAM

### DB2 UDB EEE, V7.2

- For the DB2 products, a central processing unit (CPU) with an Intel® 486 processor, or higher.
- For Linux on S/390® requirements, a 9672 G5, or higher, Multiprise® 3000.
- For DB2 products running on Solaris, CPU versions previous to UltraSparc are not supported.
- HP PA-RISC for DB2 on HP-UX needed.

### Memory Requirements

The following tables show applicable recommended minimum memory for installation prerequisite in megabytes (MB). The actual requirement depends on the applications the customer intends to run. The numbers below are for reference only.
For DB2 Clients:

### UNIX Intel

<table>
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<th>Connections</th>
<th>Tools Installation</th>
<th>UNIX</th>
<th>Intel</th>
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<td>5</td>
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<td>64</td>
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<tr>
<td>50</td>
<td></td>
<td>208</td>
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<tr>
<td>DB2</td>
<td></td>
<td>128</td>
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</table>

1. Includes GUI tools.

### DB2 Client requirements:

<table>
<thead>
<tr>
<th>Program</th>
<th>Software Version Number Required</th>
<th>AIX</th>
<th>NT/2000</th>
<th>Solaris</th>
<th>Linux</th>
<th>Linux/390</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration Client</td>
<td>107</td>
<td>125</td>
<td>96</td>
<td>77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Run-Time Clients</td>
<td>39</td>
<td>25</td>
<td>39</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Development</td>
<td>120</td>
<td>325*</td>
<td>106</td>
<td>86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Includes JDK.

### DB2 Disk Space Requirements

The following table shows applicable recommended minimum disk space for a typical install in megabytes (MB). The actual space required may vary depending on the customers’ file system and the components installed. The numbers below are for reference only.

<table>
<thead>
<tr>
<th>Windows</th>
<th>AIX</th>
<th>NT/2000</th>
<th>Solaris</th>
<th>Linux</th>
<th>Linux/390</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>197</td>
<td>183</td>
<td>282</td>
<td>245*</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Note:** Add another 109 MB for documentation. This is true for all platforms except those referenced by *.

### Software Requirements

**IM for Data V6.1.1:** The server software now runs under the following operating systems:

- AIX
- Sun Solaris
- Microsoft Windows NT
- Microsoft Windows 2000

Supported clients are AIX and Windows 95/98/NT/2000.

**Note:** IM for Data on client and server must be at the same version level.

### AIX Servers

The following table lists the software needed on an AIX server.

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
<th>Program Number Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX</td>
<td>4.2.1 (or later)</td>
<td>5765-C34 Yes</td>
</tr>
</tbody>
</table>

One of the following DB2 systems:

| DATABASE 2<sup>™</sup> (DB2) for AIX | 2.1.1 | 5765-454 |
| DB2 UDB Enterprise Edition | 5.0 (or later) | 5648-A32 |
| DB2 Parallel Edition | 1.2 | 5765-328 |
| DB2 UDB EEE | 5.0 (or later) | 5648-A34 |

**Notes**

- To run the client on the same machine as the AIX server, you must install the Java<sup>™</sup> Runtime Environment. (Refer to **AIX Clients** below.)
- To use a DB2 database on a server that is different from the Intelligent Miner server, install only the DB2 Client Application Enabler V2.1.1 (or later) on your Intelligent Miner server instead of the complete DB2 server software.
- To access DB2 Parallel Edition databases from the Intelligent Miner, you must use DB2 Client Application Enabler V2.1.1 (or later).
- DB2 UDB Enterprise Edition is provided with IM for Data, for use with this product.

The following table lists the additional software requirements for parallel processing on AIX.

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
<th>Program Number Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallel System Support Programs for AIX (PSSP)</td>
<td>2.2 (or later)</td>
<td>5765-529 Only for SP systems</td>
</tr>
<tr>
<td>Parallel Environment for AIX (PE)</td>
<td>2.2 (or later)</td>
<td>5765-543 Yes</td>
</tr>
</tbody>
</table>
Sun Solaris Servers

The following table lists the software needed on a Sun Solaris server.

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
<th>Program Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Solaris</td>
<td>2.6 (or later)</td>
<td></td>
</tr>
<tr>
<td>One of the following DB2 systems:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DB2 for Solaris</td>
<td>2.1.1</td>
<td>5765-578</td>
</tr>
<tr>
<td>DB2 UDB Enterprise Edition</td>
<td>5.0 (or later)</td>
<td>5648-A32</td>
</tr>
<tr>
<td>DB2 UDB EEE</td>
<td>5.0 (or later)</td>
<td>5648-A34</td>
</tr>
</tbody>
</table>

Notes

- The Sun Solaris version of the Intelligent Miner requires `iconv` modules for the UTF-8 locale. Therefore, verify that the SUNWuiu8 package is installed on the server.
- DB2 UDB Enterprise Edition is provided with IM for Data, for use with this product.
- To use a DB2 database on a server that is different from the Intelligent Miner server, install only the DB2 Client Application Enabler V2.1.1 (or later) on your Intelligent Miner server instead of the complete DB2 server software.
- The DB2 library path must be included in your `LD_LIBRARY_PATH` specification.

The following table lists the additional software requirements for parallel processing on a Sun Solaris server:

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
<th>Program Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun HPC Software Foundation Package or Sun HPC Cluster Tools</td>
<td>2.0</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>3.0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Microsoft Windows NT/2000 Servers

The following table lists the software needed for a Windows NT/2000 server.

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
<th>Program Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows NT</td>
<td>4.0 (or later)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

One of the following DB2 systems:

<table>
<thead>
<tr>
<th></th>
<th>Version</th>
<th>Program Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2 for Windows NT/2000</td>
<td>2.1.1</td>
<td>5622-664</td>
</tr>
<tr>
<td>DB2 UDB Enterprise Edition</td>
<td>5.0 (or later)</td>
<td>5648-A32</td>
</tr>
<tr>
<td>DB2 UDB EEE</td>
<td>5.0 (or later)</td>
<td>5648-A34</td>
</tr>
<tr>
<td>A working TCP/IP network connection</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Notes

- DB2 UDB Enterprise Edition is provided with IM for Data, for use with this product.
- To use a DB2 database on a server that is different from the Intelligent Miner server, install only the DB2 Client Application Enabler V2.1.1 (or later) on your Intelligent Miner server instead of the complete DB2 server software.
- Make sure that your DB2 library path is included in your `path` specification.

The following table lists the additional software requirements for parallel processing on a Windows NT server:

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
<th>Program Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Software PaTENT MPI</td>
<td>4.0 (refer to README file)</td>
<td>N/A</td>
</tr>
</tbody>
</table>
AIX Clients

The following table lists the software needed for AIX clients:

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
<th>Program Number</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX</td>
<td>4.2.1 (or 5765-C34 later)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Java Runtime Environment from Java Development Kit (JDK) for AIX</td>
<td>1.1.6 (or later)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Netscape Navigator for AIX</td>
<td>3.0 (or later)</td>
<td>Yes (required to display online help)</td>
<td></td>
</tr>
</tbody>
</table>

Note: The Intelligent Miner client software requires a minimum resolution of 800 x 600 pixels. Use the maximum number of colors available on your graphics adapter card. If you use fewer than 65536 colors, you might lose information when using tools like the Clustering Visualizer.

Note: Use the latest PTF version available for JDK/JRE.

Microsoft Windows Clients

The following table lists the software needed for Microsoft Windows clients:

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>One of the following operating systems:</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Microsoft Windows 95</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>or Microsoft Windows 98</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>or Microsoft Windows NT</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>or Microsoft Windows 2000</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Web browser capable of frames such as:</td>
<td></td>
<td>Yes (required to display online help)</td>
</tr>
<tr>
<td>Microsoft Internet Explorer</td>
<td>3.0 (or later)</td>
<td></td>
</tr>
<tr>
<td>Netscape Navigator for Windows 95/NT</td>
<td>3.01 (or later)</td>
<td></td>
</tr>
</tbody>
</table>

The Java Runtime Environment, which is also required, is part of your Intelligent Miner client package and is installed automatically.

Note: The Intelligent Miner client software requires a minimum resolution of 800 x 600 pixels. Use the maximum number of colors available on your graphics adapter card. If you use fewer than 65536 colors, you might lose information when using tools like the Clustering Visualizer.

DB2 IM Scoring V7.1

Installing IM Scoring on AIX: The following prerequisites are required:

• AIX 4.2.1, or later
• DB2 UDB V6, or later

- For DB2 UDB V6, FixPack 5 is required. You can download FixPack 5 from:

- For DB2 UDB V7, FixPack 1 is required. You can download FixPack 1 from:

If you want to download a fixpack, for example, in Spanish, you must replace the string "english-us" with the string "spanish" in the Web address.

DB2 UDB V7 FixPack 3 introduces the new built-in function REC2XML. This function is very useful for IM Scoring. You can download this fixpack from:

  http://www.software.ibm.com

You must also have access to mining models from the IM for Data Version 6.1.1, which produces PMML 1.1 models. If you use models from the IM for Data, it does not need to be installed on the same server as the IM Scoring.

Installing IM Scoring on Linux or Linux/390

The following prerequisites are required:

• Linux with kernel 2.2.16, or later, and glibc V2.1.3, or later.
• To install IM Scoring, you need rpm.
• DB2 UDB V6, or later.

- For DB2 UDB V6, FixPack 5 is required. You can download FixPack 5 from:

- For DB2 UDB V7, FixPack 1 is required. You can download FixPack 1 from:

If you want to download a fixpack, for example, in Spanish, you must replace the string "english-us" with the string "spanish" in the Web address.

DB2 UDB V7 FixPack 3 introduces the new built-in function REC2XML. This function is very useful for the IM Scoring. You can download this fixpack from:

  http://www.software.ibm.com

You must also have access to mining models from the IM for Data V6.1.1, which produces PMML 1.1 models. If you use models from the IM for Data, it does not need to be installed on the same server as IM Scoring.
Installing IM Scoring on Sun Solaris

The following prerequisites are required:

- Sun Solaris Version 2.6, or later
- DB2 UDB V6, or later
  - For DB2 UDB V6, FixPack 5 is required. You can download FixPack 5 from:
  - For DB2 UDB V7, FixPack 1 is required. You can download FixPack 1 from:

If you want to download a fixpack, for example, in Spanish, you must replace the string "english-us" with the string "spanish" in the Web address.

DB2 UDB V7 FixPack 3 introduces the new built-in function REC2XML. This function is very useful for IM Scoring. You can download this fixpack from:

http://www.software.ibm.com

You must also have access to mining models from the IM for Data V6.1.1, which produces PMML 1.1 models. If you use models from the IM for Data, it does not need to be installed on the same server as the IM Scoring.

Installing IM Scoring on Windows

The following prerequisites are required:

- Windows NT 4.0 SP3 or Windows 2000
- DB2 UDB V6, or later
  - For DB2 UDB V6, FixPack 5 is required. You can download FixPack 5 from:
  - For DB2 UDB V7, FixPack 1 is required. You can download FixPack 1 from:

If you want to download a fixpack, for example, in Spanish, you must replace the string "english-us" with the string "spanish" in the Web address.

DB2 UDB V7 FixPack 3 introduces the new built-in function REC2XML. This function is very useful for the IM Scoring. You can download this fixpack from:

http://www.software.ibm.com

You must also have access to mining models from the IM for Data V6.1.1, which produces PMML 1.1 models. If you use models from the IM for Data, it does not need to be installed on the same server as the IM Scoring.

**Planning Information**

**Packaging**

Electronic Software Distribution (eSD): eSD includes program code and documentation in all languages as available with the individual products.

- DB2 IM for Data V6.1.1 Windows server
- DB2 IM for Data V6.1.1 AIX server
- DB2 IM for Data V6.1.1 Solaris server
- DB2 IM for Data V6.1.1 clients
- DB2 IM Scoring V7.1 UNIX (AIX, Sun Solaris, Linux)
- DB2 IM Scoring V7.1 Windows
- DB2 UDB EE V7.2 (same platforms as above)
- DB2 UDB EEE V7.2 (same platforms as above, and more)
- Trial version of QMF™ for Windows, V7.2

Media Pack: The media packs include program code and documentation on CDs in all languages as available with the individual products.

- CDs — same products as listed under eSD above; however, on CDs.

Mechanicals

- Passport Advantage customer letter
- International Program License Agreement (IPLA) pointer sheet
- IPLA booklet (multi-language)
- DB2 IM Multiprocessor Solution License Information (LI) booklet (multi-language)
- DB2 IM for Data LI booklet (multi-language)
- DB2 IM Scoring LI booklet (multi-language)
- DB2 UDB EEE LI booklet (multi-language)
Documentation Pack (Doc Pack)
The Doc Pack will be available in English only.

- IBM DB2 Intelligent Miner for Data: Using the Intelligent Miner for Data
- IBM DB2 IM for Data: Application Programming Interface and Utility Reference
- IBM DB2 IM for Data: Using the Associations Visualizer
- IBM DB2 IM for Data: Administration and Programming for DB2
- IBM DB2 UDB EE for Windows Quick Beginnings
- IBM DB2 UDB EEE for Windows Quick Beginnings
- IBM DB2 UDB EE for UNIX Quick Beginnings
- IBM DB2 UDB EEE for UNIX Quick Beginnings
- IBM DB2 UDB Administration Guide: Planning

The LI booklets in multi-language can be downloaded from the Web at:

Security, Auditability, and Control

The products provided with the DB2 Intelligent Miner Multiprocessor Solution V1.1 use the security and auditability features of the relational database management system.

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

DB2 Intelligent Miner Multiprocessor Solution V1.1 is a single charge unit solution. The charge metric is on a Per Solution basis, with usage rights for individual products included in the bundle as addressed in the LI document. Additional licenses can be acquired either by acquiring another complete Solution or at the individual product level.

Passport Advantage

Program Name | Program Number | Part Number
--- | --- | ---
DB2 Intelligent Miner for Multiprocessor V1.1 Multiplatform Media Pack Multilingual | 5724-C97 | BB0ALML
DB2 Intelligent Miner for Multiprocessor V1.1 Multiplatform Doc Pack English | | BB0AKNA
DB2 Intelligent Miner for Multiprocessor, per Solution LIC/SW MAINT 1 ANNIV | D5192LL | D5193LL
DB2 Intelligent Miner for Multiprocessor, per Solution LIC/SW MAINT 2 ANNIV | E00BPLL | D5194LL
DB2 Intelligent Miner for Multiprocessor, per Solution SW MAINT RNWL 1 ANNIV | | 
DB2 Intelligent Miner for Multiprocessor, per Solution SW MAINT AFT LIC 1 ANNIV | | 

Passport Advantage Customer: Media Pack Entitlement Details

Customers with active Maintenance or Subscription for DB2 Intelligent Miner Multiprocessor Solution V1.1 are entitled to receive the corresponding media pack.

Terms and Conditions

Licensing: IBM IPLA. Proofs of Entitlement are required for all authorized use. Part number products only, offered outside of Passport Advantage, where applicable, are license only and do not include Software Maintenance.

This software license includes Software Maintenance, previously referred to as Software Subscription and Technical Support.

License Information Form Number: L-ABAC-57KL6B

Limited Warranty: Yes

Program Services: Available until June 30, 2003

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: Yes, and through the Passport Advantage Web site at:
http://www.ibm.com/software/passportadvantage

Usage Restriction: Yes

The DB2 Intelligent Miner Multiprocessor Solution includes three IBM programs:

- DB2 IM for Data V6.1.1
- DB2 IM Scoring V7.1
- DB2 UDB EEE V.2

The solution also includes a trial version of Query Management Facility (QMF) for Windows, V7.2.

If you have acquired a license to the solution, your use of the program provided with the solution is governed by the same terms and conditions as the single program, except as expressly modified herein.
Solution Install Authorization

One license of the solution includes four processor entitlements for DB2 Intelligent Miner for Data V6.1.1, four processor entitlements for DB2 Intelligent Miner Scoring V7.1, and four processor entitlements for DB2 Universal Database Enterprise—Extended Edition V7.2. If you want to operate the three programs on additional processors, you must acquire either:

- Additional, separate licenses of the three programs provided with the solution
- An additional license of the solution

For example, each of the programs can be installed on one server or node with four processors, or the programs can be installed on four servers or nodes each with one processor, or in any combination thereof. However, the total number of processors available or attached to each of the three programs is limited to four. DB2 IM for Data consists of a client and a server component. The client component may be copied and used with the server at no additional charge.

Software Maintenance Applies: Yes

Software Maintenance, previously referred to as Subscription and Technical Support, is now included in the Passport Advantage Agreement. Installation and technical support for the products announced in this letter is provided by the Software Maintenance offering of the IBM International Passport Advantage Agreement. This fee service enhances customer productivity by providing voice and electronic access into the IBM support organizations.

IBM includes Software Maintenance with each program acquired during the coverage period. Coverage period means the period commencing on the date you acquire the program up to the first or second anniversary date, depending on whether you acquired coverage for one or two anniversaries. The coverage period for Software Maintenance acquired in the two months preceding an anniversary date will be extended to the next applicable anniversary date.

While your Software Maintenance is in effect, IBM provides you assistance for your:

1. Routine, short-duration installation and usage (how-to) questions
2. Code-related questions

IBM provides assistance via telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your end users.) IBM provides Severity 1 assistance 24 hours a day, every day of the year. Consult your IBM Software Support Guide for further details at:

http://techsupport.services.ibm.com/guides/handbook.html

Software Maintenance does not include assistance for:

1. The design and development of applications
2. Your use of programs in other than their specified operating environment

3. Failures caused by products for which IBM is not responsible under this Agreement

For more information, about the Passport Advantage Agreement, refer to the IBM International Passport Advantage Agreement Software Announcement 201-202, dated July 10, 2001, or visit the Passport Advantage Web site at:

http://www.ibm.com/software/passportadvantage

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AIX/UNIX Upgrade Protection Applies: No

Entitled Upgrade for Current AIX/UNIX Upgrade Licensees: No

IBM eServer™ iSeries Software Subscription Applies: No

Variable Charges Apply: No

Educational Allowance Available: Not applicable

Prices

Passport Advantage: For Passport Advantage and charges, contact your authorized Lotus® Business Partner. Additional information is also available on the Passport Advantage Web site:

http://www.ibm.com/software/passportadvantage

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http://www.ibm.com/financing

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Atlanta, GA 30301-2690

You can also contact your local IBM Business Partner or IBM representative. To identify them, call 800-IBM-4YOU.

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