

High Performance Data Modeling

Product Position

BioComp iModel is our self-optimizing data modeling tool for creating mathematical systems that predict, estimate or cluster data. Designed specifically for commercial applications, iModel's automated model optimization capabilities provide highly accurate predictive models for a wide variety of applications and are the modeling foundation for business and process prediction and optimization.

iModel delivers our newest "Mesh" data modeling technology, an extension beyond our highly successful neural networks. Meshes enable new capabilities and break down old neural network barriers, acquiring knowledge from your data with greater accuracy, effectiveness and simplicity.

Professionals use iModel's scalable architecture, ranging from a single CPU PC to a data center of distributed multi-processing servers.

Key Features

- New "Mesh" modeling technologies extend beyond neural networks for maximum accuracy
- Model optimization technologies for automated model design (selects input variables, model types and architectures automatically)
- Distributed multi-processing scales to your organization's needs
- Broad data access from files to large scale SQL data warehouses
- Integrated data pre-processing

Applications

iModel flexible modeling technology is the foundation for many commercial applications in banking, finance, manufacturing, medicine, engineering and marketing. It is used extensively in process modeling, prediction and optimization applications throughout the world.

Process Engineers develop predictive process models to improve quality and consistency and maximize production of key products and assets.

Medical Researchers discover and develop new drugs faster, predict drug response and diagnose disease.

Financial Analysts forecast econometrics, cash flows, revenues, market valuations, securities prices and other financial indicators.

Marketing Analysts can predict customer willingness to buy effectiveness of promotions and customer demand.

Features and Benefits

The Right Technology

As the foundation of BioComp's modeling technology, iModel contains a complete suite of data modeling capabilities. iModel is capable of performing sophisticated non-linear regression, classification, clustering, diagnostics and probability estimation.

Accuracy is What Counts

iModel uses sophisticated optimization processes to discover and create high accuracy models. The optimization process searches through alternative model types, structures and combinations of input variables to maximize the predictive accuracy of your models.

Open Access to Diverse Data

iModel works with delimited text files, Microsoft Excel workbooks, Microsoft Access databases, Oracle, SQLServer and other relational databases and when coupled with iManageData, can link up with process data management systems, such as OSI PI Data Historian and OPC-compliant data sources.

Broad Applications

iModel is appropriate for hundreds of applications within your organization. From aeronautics to process improvement, from sales and demand forecasting to medical diagnosis, iModel self-optimization finds the right fit for your application.

Scalable Performance

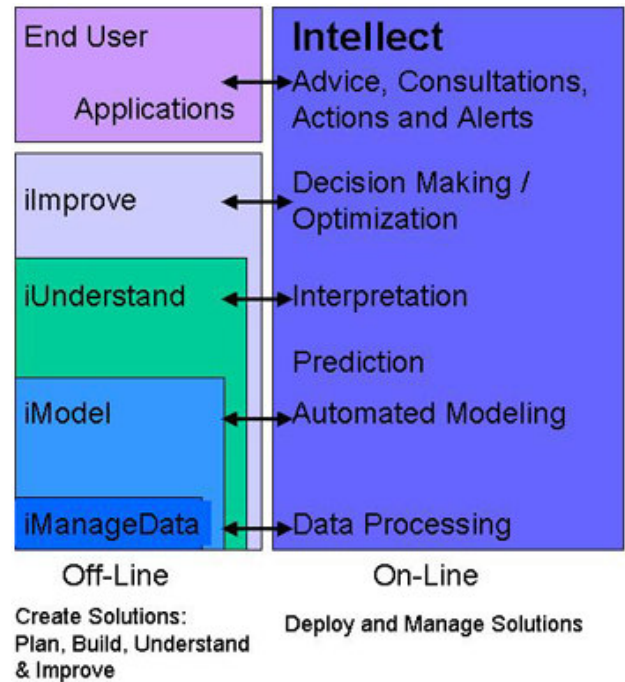
iModel supports multi-processor systems and is fully distributed, multi-processor capable in the Enterprise Edition. No longer are you limited to one CPU on one machine, you can now scale to the needs of your organization.

Ease of Use

iModel is complete with Wizards, step-by-step guidance for accessing data, data cleansing, data partitioning and modeling setup. Follow the easy wizards to configure iModel for your task at hand.

Integration with Intellect

iModel's models can be put on-line in Intellect's predictor processes to make predictions "lights out" in 24x7 operations.



Specifications

Data Sources

- Text files
- Microsoft Excel workbooks
- Microsoft Access
- Microsoft SQL Server
- Oracle RDBMS
- OSI PI Data Archive (requires iManageData)
- OPC (requires iManageData)

Data Handling

4 Data Set Handling for Maximal Generalization

- Modeling data set for coefficients determination
- Optimization data set for seeking optimal models
- Selection data set for selecting top performing models
- Hold-back data set for out-of-sample performance assessment

Modeling

- Linear/Non-Linear Regression, all temporal capable
 - Free Form Meshes (high flexibility)
 - Fast Back Prop
 - Time Delay
 - Continuous Adaptive Time Delay
- Probabilistic Meshes
- Generalized Regression Meshes (interpolated look up tables)
- Self Organizing Maps, including temporal, for Clustering
- Unlimited input variables
- Unlimited predicted variables
- Multi-Processor support, local and distributed, 2 standard, additional optional.

Model Optimization

- Optional Input variable selection
- Model type selection
- Model architectural optimization
- Multiple model performance metrics
 - Average Absolute Error (aka MAD)
 - Mean and Root-mean Squared Error
 - R-Squared (coefficient of determination)
 - Relative Accuracy
 - Classification
 - Diagnostic

Wizards

- Data Import / Pre-processing Wizard (all editions)
- Data Partitioning (all editions)
- Modeling Setup (all editions)

Many features are not listed. All features are subject to change.

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