

**Leveraging time-series data with
IBM Informix Finance Foundation
for Capital Markets.**

Support for smarter financial decisions



Support for multiple data types

The latest trend among quantitative analysts is to move from analyzing data on a daily basis towards a more dynamic analysis of tick data. The increased competitiveness of today's trading environment leaves companies with two possible outcomes: either get bogged down in the detail or thrive on it.

Managing time-series data poses a unique problem to financial technologists. A data set containing ten years of tick history for global equities is far too large to move around a network and analyze on a workstation (files can easily reach one terabyte in size). While others look to fat-client solutions, IBM realizes that a server-centric model enables powerful analytical tools to work concurrently on historical and realtime tick data.

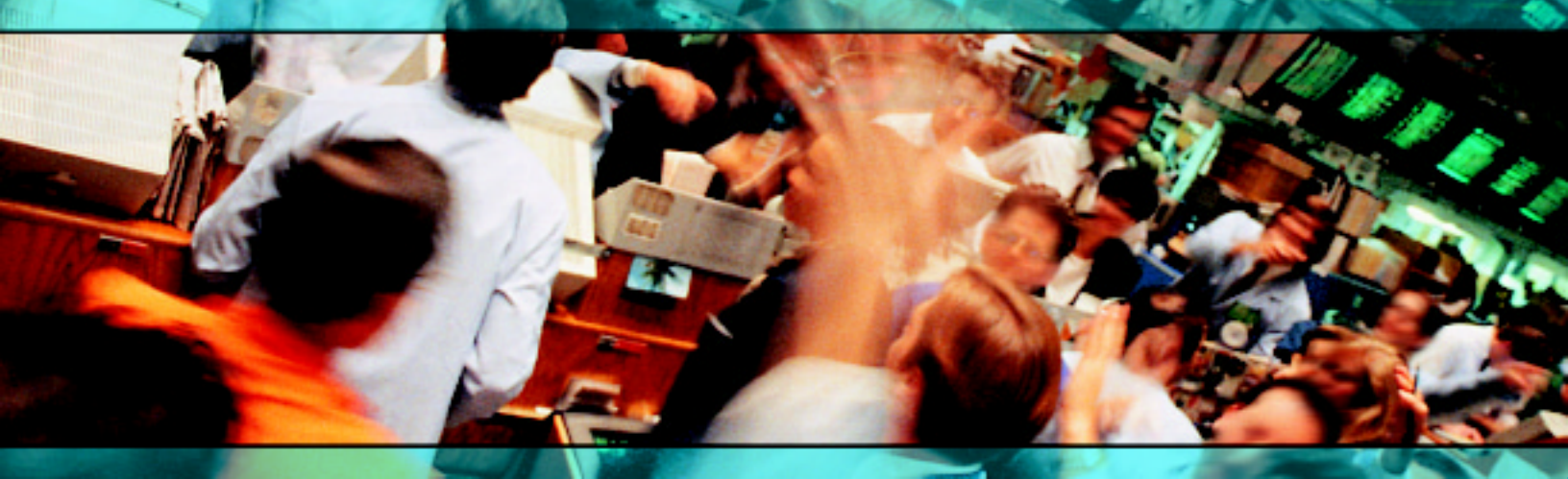
IBM Informix® Finance Foundation for Capital Markets is an elegantly architected foundation providing a solution for analyzing large volumes of market data quickly. The bundle is comprised of TimeSeries Real-Time Data Loader, TimeSeries DataBlade®, NAG DataBlade and IBM Informix Dynamic Server™.

In most types of database software, storing different types of market data, such as time-series price data and textual data, presents fundamental difficulties. The result is very inefficient storage, limited growth capacity and poor query response times. IBM Informix Dynamic Server object relational technology combined with the extensibility of the IBM Informix DataBlade eliminates these restrictions.

“IBM Informix Dynamic Server technology is superior to all competitors and delivers the most reliable and advanced platform for our financial sector customer base.”

–Ian Hillier-Brook, Managing Director, Market Information Services Ltd.

High-volume transactions at high speeds



The IBM advantage

- *Speed: The server-centric model is anywhere from 20 times to 2,500 times faster than a relational database when dealing with very large data sets*
- *Volume: Can load over 25,000 stock trades per second, while simultaneously running queries, while other relational databases are typically able to handle only hundreds of trades per second*
- *Accuracy: High-performance tools cut through irrelevant detail and deliver precise and accurate information*
- *Efficiency: Storing data in a time series may reduce a data set to approximately half of its original size, as it is stored contiguously on disk for fast access by the server.*

Good news for your business

Today's technological advances have increased the pressure on businesses to stay ahead of the competition. Nowhere is this more true than in the world's capital markets. Even the slightest advantage in information access means earlier and more accurate decisions, which means more profitable trading and more creative investment offerings to retail clients. All these benefits can make a huge difference to the bottom line.

Typically, a 'Quant' is processing data 1,000 times faster than he or she could otherwise achieve, and this means that analysis is being done within the industry standard definition of 'realtime.' In finance houses, this means that the types of analysis that used to be on desks the next morning are now appearing instantly.

Is IBM Informix Finance Foundation for Capital Markets right for your business? Consider these roles and how each can benefit from the solution:

Quantitative Analyst

- *Collect, store and analyze tick data in realtime*
- *Realtime and historical data available for query and analysis in the same database.*

Risk Manager

- *Perform VWAP in realtime*
- *Benefit from a central repository of all data and analysis.*

IT Manager

- *Develop tick-data systems using bench-tested components from industry leaders*
- *Hold all data in a central repository for normal relational text or other rich data type.*

Market Managers

- *Manage realtime and historical systems in a standard database*
- *Deliver consistent analysis to traders through standard, secure Internet channels.*



“When IBM developed this elegant way to handle time-series data, it was only natural that we should pair up with NAG, the world’s expert in numerical calculations.”

–Terry Ralph, Executive Director, Database Business Development, IBM

Bundled solution to meet your market data analysis demands

IBM Informix Finance Foundation is comprised of the following products:

IDS

IBM Informix Dynamic Server, a scalable ORDBMS, combines proven relational database engine with advanced extensibility.

NAG

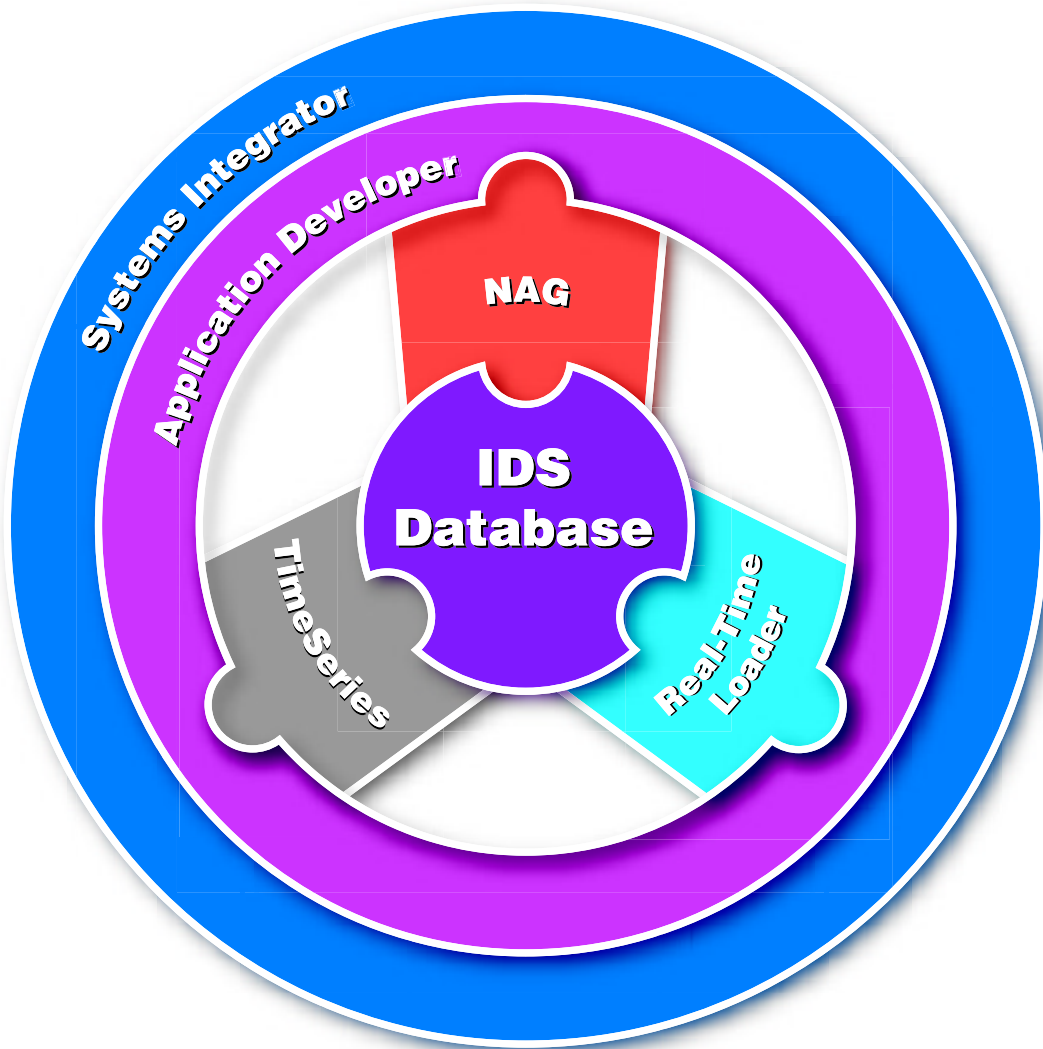
NAG DataBlade enables powerful analytical algorithms from the Numerical Algorithms Group to operate directly on the data in the database engine.

TimeSeries

TimeSeries DataBlade allows time-series data to be managed in its native format by the database, dramatically reducing the data storage space required and accelerating the data retrieval.

Real-Time Loader

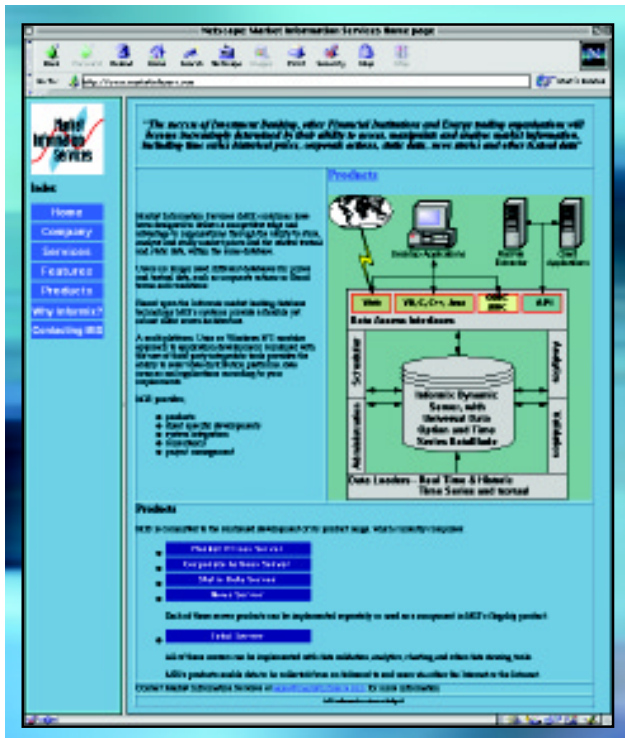
Real-Time Data Loader uses IBM's unique shared memory capability to capture huge quantities of realtime data and to make it available to SQL queries, concurrently with historic data held in the main database.



IBM partnerships

Market Information Services Ltd, (MIS) is the London- and New York-based supplier of advanced market information solutions for financial institutions and other trading organizations. (www.marketinfoserv.com)

Says Ian Hillier-Brook, managing director of MIS, “IBM Informix Dynamic Server technology is superior to all competitors and delivers the most reliable and advanced platform for our financial sector customer base. With its open, object-relational architecture, it allows us to keep all data types in one database. It handles price, text, graphic, multimedia, relational and static data, providing the perfect infrastructure for leveraging the full range of market information, not just time-series price data. Now we can analyze and collate information faster and more accurately than ever before. No other database technology in the world can do that.”



MIS's solutions are designed to load, clean and filter, analyze and deliver multi-type market information from many sources to users or other applications.



Having created a worldwide collaborative network of the world's best mathematical experts, NAG is the innovative force behind leading software for solving complex mathematical problems.

Numerical Algorithms Group Ltd, (NAG) is the highly regarded developer of software to solve complex mathematical problems. Offices are located in the U.K., U.S., France, Germany and Japan. (www.nag.co.uk)

“When IBM developed this elegant way to handle time-series data, it was only natural that we should pair up with NAG, the world's expert in numerical calculations and include their routines in our software,” notes Terry Ralph, executive director, Database Business Development, IBM. “NAG routines provide an incomparably powerful toolset to anyone wanting to do a statistical analysis rather than a relational analysis.”



© Copyright IBM Corporation 2001

IBM United States
Silicon Valley Laboratory
555 Bailey Avenue
San Jose, CA 95141
U.S.A.

Printed in the United States of America
08-01
All Rights Reserved

DataBlade, Dynamic Server, the e-business logo, IBM, the IBM logo and Informix are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries or both.

Other company, product or service names may be trademarks or service marks of others.

The case studies herein illustrate how two customers use IBM products. Many factors have contributed to the results and benefits described. IBM does not guarantee comparable results. All information contained herein was provided by the featured customers. IBM does not attest to its accuracy.

References in this publication to IBM products or services do not imply that IBM intends to make them available in all countries in which IBM operates.



Printed in the United States on recycled paper containing 10% recovered post-consumer fiber.



GC27-1483-00