



*Incorporates latest hardware and software enhancements*

## Britton Lee Announces BL700 Series

Britton Lee has introduced a new line of its high performance relational database machines incorporating the most advanced technology the company has to offer. The BL700 Series will replace Britton Lee's 500 Series as the company's high-end relational database solution. Currently installed 500 systems remain fully supported.

"The 700 Series was designed to offer packages based only upon the latest generation developments in the IDM," said Helen Kruse, Product Marketing Manager. By designating a new series number, Britton Lee is recognizing several technological advances that have increased system performance, Kruse said. "The high-end 700 machine represents roughly a 30 percent performance improvement over a high-end 500 based upon a first-generation Database Processor."

The BL700 Series will be available in three models (X, XL and XLE), each signifying a different disk drive

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*The new BL700 Series incorporates the most advanced relational database technology Britton Lee has to offer.*

## Martin to Give Keynote Address at Users Group Symposium

James Martin, who has been described by *Computer Weekly Magazine* as "the computer industry's most widely read author and best attended lecturer," will give the Keynote address at the upcoming Britton Lee Users Group Symposium, to be held May 17-20 at the McLean Hilton Hotel in McLean, Virginia. (See related story on page 3.)

Currently working out of the Santa

Monica, California-based Technology Transfer Institute, Inc., Martin has lectured to more than 20,000 Data Processing professionals worldwide and has written close to 50 best-selling books on computer/communication technology. His top selling book *The Wired Society* was nominated for a Pulitzer prize and *An Information Systems Manifesto* was the

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# The Future Of Database Machines

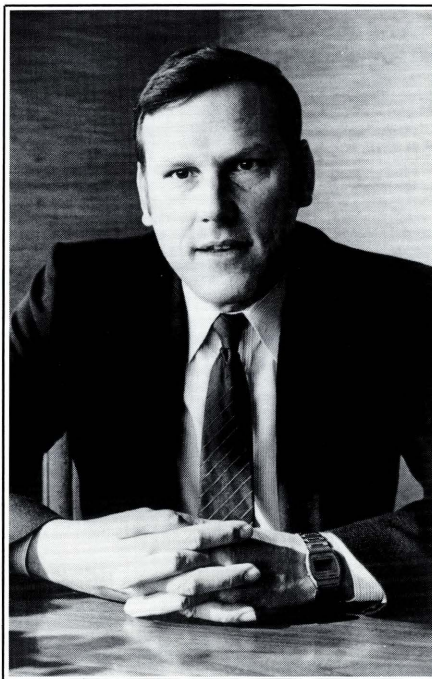
David L. Britton

## President's Message

It is now common knowledge that Britton Lee pioneered the database machine marketplace with the introduction of the IDM500 in 1981. Since that time, we have increased the performance levels of the IDM three-fold, greatly increased the number of popular operating systems and communications interfaces we support, and introduced the RS300 Series, a database system targeted for the integrated office environment. More than 675 Britton Lee systems have been installed in over 150 customer accounts, including AT&T, DuPont, RCA Corporation, Credit Lyonnais and Goldman Sachs. To further complete the product line, Britton Lee now has under development its latest database machine, code-named "Omega," which will open up a new class of applications that require more storage capacity, speed, or computing power than we currently provide. It will extend the capabilities of the existing IDM and RS lines to give Britton Lee comprehensive solutions to the widest range of database requirements.

In addition, Britton Lee has begun to aggressively pursue front-end tools (4 GLs, AI, etc.) that will further enhance the capabilities of its database management systems.

Despite this activity, there still exists skepticism in the marketplace that the database machine concept is indeed real and lasting. We feel the technology has only begun to scratch the surface of the available marketplace and indeed offers a viable alternative to conventional software-only solutions. And we are not alone! Britton Lee recently gathered information on other database machine projects that are currently underway in both the commercial and academic arenas. The following is a summary list of database machine projects currently being funded:



### Computer Vendors

**Teradata:** Teradata is the other commercial vendor of database machines employing specially designed hardware. Teradata reportedly has installed approximately 60 machines, mostly connected to IBM and compatible mainframes running the MVS operating system. Teradata has also announced an OEM agreement with Honeywell.

**Sybase:** Sybase is beginning to sell their relational system running on a Sun server. They have announced plans to run their server software on DEC VAX systems.

**Digital Equipment Corp:** DEC's database machine project is alive and well. Recent events indicate they are getting more aggressive. Their announcement and support of DSRI (DEC Standard Relational Interface) has led to speculation that DSRI could be their database machine interface. It is a parse tree interface similar to Britton Lee's and is the standard that their front-ends all speak (including Rally and Datatrieve). RDB (DEC's software DBMS) also

supports it, which would make for an easy migration path.

**International Business Machines:** The IBM Almaden Research Laboratory has a project with goals very similar to those of Teradata, namely to support parallel searches within a very large database using a large number of microcomputers.

**Plexus:** Plexus has recently started a database machine project. Their plan is to exploit the capabilities for parallelism within the Plexus architecture to the database management problem.

**Okidata:** Okidata has been marketing a small database machine in Japan. Priced in the \$20,000 range, it is designed for office automation applications.

**Cupernique:** A database machine is used in France as part of a videotex application.

**Real Database Machine Corp.:** A recent Silicon Valley startup, Real Database Machine Corp. soon plans to announce a database machine utilizing CMOS gate array chips to implement a very high-speed Intel-compatible processor.

### Industrial Laboratories

**MCC:** MCC in Austin, Texas has an active effort underway. Several research papers have been published. Their overall goal is much more closely linked to the support of inference-based AI systems than to commercial users.

**MITI:** The Japanese have had an on-going program in database machine technology as part of their Fifth Generation Computer project. The first prototype is operational. It is called DELTA; several research papers have been published on it.

**INRIA:** The French have had a project called SABRE for some years. Research continues on this project.

### Universities

**Univ. of Wisconsin:** There continues to be an active effort at the University of Wisconsin. The work in application independent benchmarking is being continued, and prototype parallel

(continued next page)

Vendor	Have Shipped	Have Yet to Ship
Britton Lee	✓	
Teradata	✓	
Sybase		✓
DEC		✓
IBM		✓
Plexus		✓
Okidata	✓	
Cupernique	✓	
Real D.B.M. Corp.		✓

(continued)

database machines are under development, utilizing a family of small computers communicating over a network.

*Naval Post Graduate School:* There is a project in Monterey at the Naval Post Graduate School aimed primarily at machines that can support more than one data model. Parallel search is also supported.

*University of Tokyo:* In addition to the DELTA effort discussed above, the University of Tokyo has developed an architecture for another database

machine, called GRACE. It is unknown whether a prototype of this machine has been built.

Britton Lee pioneered a new and exciting marketplace. The Company continues to grow while establishing the validity of the database machine concept. Other vendors entering the marketplace lend new credence to our vision. Our leadership in the database machine field will continue as we bring out exciting new products which extend our lead in high performance relational technology.

## Mark Calendar For Users Group Symposium

The first of two scheduled Britton Lee Users Group Symposiums for 1987 will take place May 17-20 in McLean, Virginia. Accommodations for the symposium will be at the McLean Hilton, a resort hotel located 15 minutes outside of Washington, D.C.

Walter Cayce, Database Administrator for the United States Coast Guard, will host the Symposium, which will feature user presentations, a Vendor Faire, and—a new feature—the Britton Lee Support Booth. Bob Thompson, Systems Program Branch Chief for Reynolds Electrical and Engineering, will oversee the symposium as Users Group President.

"The Users Group meeting is the only forum available to those who want to exchange information with regard to Britton Lee products," Thompson said.

"Whether users or prospective users, this symposium will be of value to all people interested in Britton Lee's database machine concept."

As usual, Britton Lee technical personnel will be on hand to lend advice on various issues. In addition, Britton Lee's Product Support staff will man a booth designated specifically to address users' concerns about their Britton Lee systems.

Thompson is urging Users Group attendees to submit papers for presentation at the meeting. "We'd like to place a special emphasis on user presentations this time," he added.

For more information about submitting papers, or about the symposium in general, contact Thompson at (702) 295-2008.

## Date Disperses Relational Misconceptions

Relational database technology continues to suffer from "myths and misconceptions," according to Chris Date, a foremost expert in the field of relational database.

Date addressed more than 150 people recently at the Britton Lee Users Group Symposium in San Diego, California. Date, a renowned author and lecturer, based the Users Group presentation on his 1984 paper "Relational Myths Exploded."

Date and Dr. E.F. Codd (creator of the relational model), operate the Relational Institute, a non-profit organization dedicated to promoting relational database. The two are also partners in the Codd & Date Consulting Group.

"All sorts of crazy things appear in the trade press about relational database," Date told the Users Group audience, "and I think it's time to start fighting back."

Date pointed out that the popularity of relational database has increased greatly over the past decade, "Yet the level of understanding, if anything, is worse now than it has ever been," he said.

After reviewing the 26 misconceptions he had written about in 1984, Date then discussed several more recent additions to his "growing list." One of the largest misconceptions, he said, lies in the confusion between the logical and physical levels of relational systems. "This is actually the root of several misconceptions," he said.

He also dismissed the oft-repeated argument that relational systems must necessarily perform poorly. "That's one of the biggest myths of all."

In the 1982 edition of his bestselling book *An Introduction to Database Systems*, Date wrote negatively about the future of database machines. When questioned by a symposium attendee about this, he responded: "I think the scene has changed quite a bit since then. In fact, I wrote in my latest book that I was too negative (about database machines)."

"Database machines, after a period when not many people believed in them, have suddenly become a very interesting area," Date added. "I think the future is reasonably bright for them."

## New Products

### BLI Forms Alliance With IntelliCorp

A newly formed alliance between Britton Lee, Inc. and IntelliCorp – a leading vendor of Artificial Intelligence (AI) Software – should boost BLI's line of database machines into the forefront of expert systems technology according to Don Nanneman, Britton Lee's Product Marketing Manager in charge of workstations and LAN products.

The interface is the result of a confidential 9-month project between the two companies to develop an interface between IntelliCorp's KEE™ (Knowledge Engineering Environment) AI package and SQL databases. The outcome of these efforts is two new IntelliCorp products: KEEconnection™ and IntelliScope™.

"KEEconnection enables an expert system to make decisions using real-time data from a Britton Lee database machine," said Nanneman. "This is a monumental advancement for expert systems technology, which previously has had access to the data available only within the knowledge base of a specific workstation. By allowing access to large relational databases, expert systems will be able to perform analysis on very large, real-time external databases."

IntelliScope, provides an integrated environment for querying, browsing and analyzing databases. By utilizing the features in KEEconnection, IntelliScope enables novice users of databases to conduct complex data searches and interactively analyze information of interest.

"The KEEconnection and IntelliScope products represent a major development in connecting knowledge-based systems to databases, providing a bridge between the world of knowledge processing and the world of data processing," said Thomas P. Kehler, Chief Executive Officer of IntelliCorp.

The Britton Lee implementation



Thomas P. Kehler, Chairman of IntelliCorp.

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***"KEEconnection enables an expert system to make decisions using real-time data from a Britton Lee database machine."***

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consists of one or more Symbolics machines running KEEconnection. These computers communicate across Ethernet with a VAX or MicroVAX running VMS and BLI's Host Software, which is directly linked to an IDM/RS.

Alpha testing for the two products has already begun and Beta testing is expected to commence in May. Final release of both products is scheduled for October.

### Apollo Interface Debuts At Trade Show

A new interface between Britton Lee's line of relational database machines and Apollo Computer Inc's engineering workstations made its debut at the Autofact '86 trade show held recently in Detroit.

Britton Lee's RS310 was featured in an Apollo demonstration which networked more than 40 systems, including Apollo Workstations, Digital Equipment Corp's VAX 11/750, an IBM 4341 mainframe, shopfloor systems and several personal computers, including IBM PC/ATs, Apple MacIntoshes and Apollo's own Domain/PCC PC co-processor.

According to Don Nanneman, Product Manager for workstations and LAN products, the Britton Lee/Apollo link meets an important need in Computer Integrated Manufacturing (CIM) environments where departments need to share common data.

"One of the main advantages for Apollo users is that they will be able to share a relational database in real-time even though they are running different applications," Nanneman said. "Britton Lee systems can act as a database server for a variety of host computer types at the same time it serves as a node on the Apollo network."

Britton Lee's IDM and RS relational database systems can be connected directly to Apollo workstations over RS232 serial lines, through IEE488 connection, or indirectly through the Apollo/DOMAIN network. Britton Lee systems can interface to Apollo workstations running the Apollo Aegis/DOMAIN, System V UNIX and BSD UNIX 4.2 operating systems.

"In addition to offering us a gateway into other system environments, the power and performance capabilities of Britton Lee systems will help decrease development time for Apollo users," said Terry McKeever, Marketing Manager for Apollo.

### Britton Lee Release 3 Host Software Features

As of March 20, 1987

Product	Machine	Operating System	Oper. Sys. Version	Product Release No.	To Final Release	RS-232	IEEE-488	Ethernet	C	Cobol	Fortran	Developer
Host SW	VAX	VMS	4.2	3.4	12/86	✓	✓	BLI ✓	✓	✓	✓	BLI
Host SW	μVAX	μVMS	4.2	3.1	1/87	✓		BLI ✓	✓	✓	✓	BLI
Host SW	VAX	Ultrix BSD	1.2 4.2	3.4	12/86		✓		✓			BLI
Host SW	Pyramid	OsX	3.1	3.3	6/86			Pyramid (PIB) ✓	✓			BLI
Host SW	3Bx	Sys. V	2.x	3.4	1/87	✓		BLI ✓	✓			BLI
Host SW	PC	DOS	2.1	3.3	4/86	✓			Lattice 2.15			BLI
Host SW	Sun	UNIX	2.0	3.4			✓		✓			TMD
PHI				3.4	12/86				✓			BLI

The diagram above lists the many features available in Britton Lee's growing line of host software. Look for announcements on further software features in upcoming issues of Britton Lee Ink.

## BL700 Series

(continued from page 1)

configuration. X models are equipped with 500 Megabytes of Mirrored Disk (two 515 Megabyte drives). XL models are equipped with one Gigabyte of mirrored disk (four 515 Megabyte drives), while the XLE models have 1.3 Gigabytes of mirrored disk (four 689-megabyte drives). The ability to mirror drives comes standard in all IDM systems and may be used for only some or all disk pairs.

Within each model, the customer has a choice of two performance packages: The 700/3 package is equipped with a High Performance Database Processor, includes two Mbytes of memory and uses SMD/E disk controllers. The 700/4, also equipped with the high performance database processor, adds Britton Lee's Database Accelerator, a high-speed processor that can improve throughput by a factor of 2 to 10, depending upon the database operation being performed. The 700/4 is also equipped with four megabytes of memory and uses SMD/E disk controllers.

Britton Lee Installation and a one-year software maintenance agreement are also included as part of the 700 Series package price.

The BL700 will be based upon the latest release of Britton Lee's proprietary DBMS software. Key new features of this release are dynamic dump and transaction log allocation to a specified disk drive. Dynamic dump allows the user to back up a database without ceasing normal operations. Transaction log allocation allows the user to isolate the transaction log onto a separate disk drive and to optionally mirror that drive.

While some versions of the 500 Series may have been upgraded to include a number of — or even all of — these features, a 700 Series designation assures that all of the latest Britton Lee technology is present within each system, Kruse said.

The BL700 Series ranges in price from \$122,000 for a basic 700 X system to \$225,000 for a fully equipped 700XLE system. IDM500 users who wish to upgrade their systems to 700 series status should contact their local sales representative for details.

## TMD Develops Sun/IDM Interface

Britton Lee's line of Intelligent Database Machines can now communicate with Sun Microcomputer workstations, thanks to a software interface developed recently by TMD Inc. of Minneapolis, Minnesota.

The interface will allow technical professionals to access relational databases residing on Britton Lee database machines as they use the workstations.

"The software will permit Sun workstations to create applications programs, run interactive IDL and SQL and run IDM utilities for IDM500 and BL700 database machines," said Ed Simon Product Marketing Manager for Britton Lee.

The package is based upon Britton Lee Portable Host Software release 3.4, and contains all of the features of that product, Simon added.

The interface requires a GPIB-1014 interface card from National Instruments, a Sun/VME adapter card for the GPIB interface and 4,000 blocks of free disk space (including an additional 2,000 blocks for optional

files). The Sun must also be equipped with an ECO #2518 or higher server node.

The package is available from TMD, 5200 Wilson Road, Ste. 118, Minneapolis, MN 55424, or from Britton Lee as third party software (order number: T-S-1). The cost is \$20,000 per Sun connection to the IDM. TMD will also provide software support for an annual fee of \$4,000.

## Martin to Give Address at Users Group Symposium

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top-selling book for computer professionals in 1984.

Martin, who coined the term "fourth generation languages," is currently involved with implementing 4GLs in the development of graphics workbench tools for systems analysts. "The revolution in programming with 4GLs is now being coupled with a revolution in analysis and design using workbench tools," he said.

# SOLUTIONS

*The Solutions section of Britton Lee Ink is specific to the Britton Lee Integrated Systems Division (BLIS), and is designed to keep our clients, prospects and associates well informed on BLIS activities. The BLIS division encompasses the total scope of support services offered by Britton Lee, including fully integrated turnkey systems, consulting, support and training. BLIS is a strategic expansion of Britton Lee's general commitment to information systems industries.*

## BLIS Develops Associate Program

Identifying the need for qualified system houses, consultants and other teaming parties to assist in building fully integrated turnkey system solutions, Britton Lee Client Services is developing the Britton Lee Associate Program.

The goal of the Associate Program is to develop a network of industry experts knowledgeable on Britton Lee products and services, and to provide a structured path for information exchange. Associates will join Britton Lee in mutually beneficial relationships where either party is finder, prime contractor, subcontractor, or supplier, according to Nicole Gilbert, BLIS Marketing Specialist, who is organizing the program.

The typical Associate would be a company that supplies computer products, software or peripherals, or can provide consulting expertise in the following areas:

- Database Design and Implementation
- Hardware and Software Suppliers
- Training and Documentation
- Performance Tuning and 4th Generation Languages
- Software Development
- System Integrators

The introduction of the program to potential Associates will include the presentation and dissemination of information relative to Britton Lee products and services. Client Services will provide special training for qualified Associates without prior experience with Britton Lee relational database products, so they can successfully aid Britton Lee in providing systems solutions.

Those interested in becoming a member of the Associate Program or who

wish to obtain additional information, should contact Ms. Gilbert at Britton Lee Corporate Headquarters.

## Britton Lee Product Support Joins BLIS

In a move designed to strengthen Britton Lee's customer support services while enhancing its integrated systems offerings, Britton Lee has announced the addition of Britton Lee Product Support to the Integrated Systems Division (BLIS).

The consolidated division will be run under the direction of Philip R. Amend, VP and General Manager of BLIS.

"The addition of Product Support and Training completes the scope of BLIS support offerings requested by our customers," Amend said. "We can now deliver value-added assistance ranging from turnkey systems to long-term maintenance, and can include a wide variety of consulting, special engineering and training services."

The Product Support group, including Software Support, Hardware Support and Field Engineering, will remain under the direction of Robert Quiring. The Britton Lee Training group has been joined with Client Services, under the direction of Judith Obarr.

"We believe the synergy created between Training and consultants will be reflected in a more dynamic course offering," Obarr explained.

## Systems News

### Providing Total Solutions

Recognizing that customers need total solutions to their database system requirements, Britton Lee is introducing the BLIS *Systems* department, whose charter is to provide customers with a full complement of system integration services.

"A major factor to the success of a database application is how well the database requirements are analyzed, designed and implemented in the planned system environment," said McKendrick, Director of Systems Integration. "It is specifically in these areas that *Systems*, drawing from Britton Lee's experience and expertise with its database machine products, is well-suited for ensuring successful database implementations for its customers."

Directed by professionals experienced in project definition and management, *Systems* provides complete project-level assistance to Britton Lee customers. *Systems* also has resources for applications software development, and emphasizes fourth-generation language tools, to efficiently and cost-effectively develop and integrate the customer's system and application requirements.

The comprehensive range of services provided by *Systems* will be tailored to the scope of each project. The scope of services and project involvement offered includes:

- System requirement definition.
- System analysis and design.
- Hardware procurement, installation and support.
- Database analysis, design and setup.
- Application software development and integration.
- System validation and acceptance testing.
- User and system management documentation and training.
- Project planning and management.

Through contracted services, *Systems'* goal is to provide Britton Lee customers with resources necessary to ensure the successful system implementation of Britton Lee's database machine products. *Systems* is prepared to assume full project responsibility or to provide significant project contributions in joint efforts,

whichever best serves the customer.

"*Systems'* effectiveness will clearly be measured by the quality of systems solutions provided to our customers; the success of our customers systems will determine the success of the *Systems* offering," McKendrick said.

### McKendrick Returns to Britton Lee as Systems Director

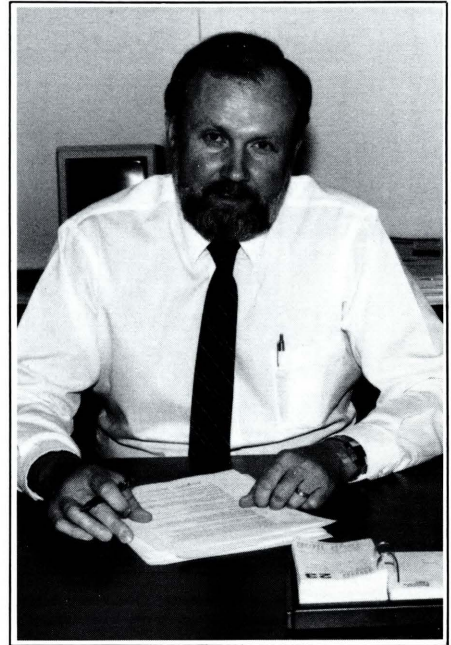
Martin McKendrick, who worked as a Product Marketing Manager for Britton Lee until 1984, has returned to the company as Director of Systems Integration for Britton Lee Integrated Systems (BLIS).

In his new capacity, McKendrick will develop and direct BLIS *Systems* organization. *Systems'* charter is to provide Britton Lee customers with complete systems integration services on a project-level basis.

"Offering systems integration to those who might not have been customers without it—or to those who chose to consider us as an option—is a positive business strategy for both the customer and Britton Lee," explained McKendrick. "We can now promote, and directly support, systems-level solutions to customers utilizing our database machine products."

McKendrick brings more than 15 years of systems development and project management expertise to his new position. He returns to Britton Lee from Integrated Automation, Inc., where he managed the systems integration and account management of custom large-scale image documentation systems for several Fortune 25 corporate accounts.

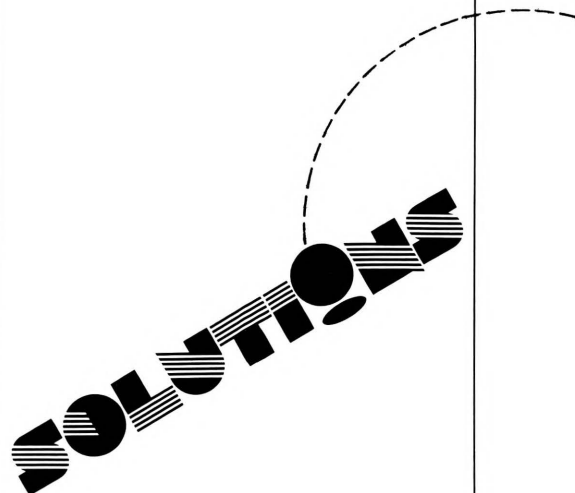
McKendrick's experience includes program management and senior software/hardware engineering positions at GE Calma, Science Applications, Inc., and IBM. He has specialized in CIM,



*Martin McKendrick, Director of Systems Integration.*

CAD/CAM and government-related systems. Systems for which he was responsible have been featured in articles in *Design News*, *Aviation Week* and *Pharmaceutical Technology*.

McKendrick said his new position will be challenging, adding that quality turnkey solutions will be the key to *Systems'* growth. "I look forward to capturing new business opportunities and enhancing Britton Lee's position in the DBMS marketplace," he said. "It's good to be back."



## Product Support News

### On-Line Bulletin Board Provides Tips

One of the most valuable features offered by Britton Lee's Product Support department is the On-line Bulletin Board. The bulletin board not only provides answers to the various concerns of Britton Lee customers, it also serves as a line of communication between database machine users and Britton Lee's technical experts.

The electronic bulletin board service is available under two Product Support programs, Software Support and TAPRA.

Britton Lee's Software Support program provides 24-hour telephone assistance and an aggressive update schedule to keep database systems running efficiently.

The TAPRA program is designed for customers wishing to perform their own maintenance or wish to have their system maintained by a third party. This program provides all the tools and consultative services necessary for establishing an in-house maintenance program.

The Bulletin Board service provides up-to-date information on:

- **Known Problems and Workarounds** – identifies known problems and incorporates new engineering change activity specifying the ECO resolving each problem.
- **Technical Tips** – items of general and specific interest.
- **Technical Papers** – papers of general interest on such topics as indices and duplicate tuples.
- **Electronic Mail** – providing access to Britton Lee Support experts.
- **Chat** – for on-line "real time" communications between two parties.
- **Forum** – for discussion of various topics and issues.
- **Editor** – the simple line editor for forum mail messages.

Members of Britton Lee Product Support are encouraged to contribute items of importance to the bulletin board. This on-line system is Britton Lee's commitment to dynamic information exchange on technical issues, as they happen, and allows users

to benefit from the experience of our experts in relational database systems.

#### TECH TIP #55

##### The scenario:

You receive a "new" drive for your IDM and you bring it on line. The IDM complains about having two system databases. You decide to destroy the new system db via SYSDESTROY in DFU. DFU prompts for the drive the system is on then promptly goes out and destroys the original system db. No problem, you say, I'll just merge the databases to the new system db. The new drive and the original system drive happens to have the same low block number so the IDM complains when you try to run MERGE. You can't renumber or reformat the old drive because there are user databases on that drive.

##### The solution:

1. Do another SYSDESTROY (gets rid of the system db on the new drive).
2. SYSFORMAT the new drive (this will format the new drive with unique block numbers as well as create a system db).
3. MERGE the databases.
4. Reboot

##### How to avoid the above scenario:

1. Bring the existing drives off-line.
2. Put the new drive on-line and boot.
3. If the new drive is a system drive run DFU/SYSDESTROY to destroy the system database on the new drive.
4. Bring the existing drives on line (including the system drive).
5. Boot to see if there are overlapping block numbers.
6. If there are overlapping block numbers, run DFU/RENUMBER on the new drive with the beginning (low) number larger than the highest block number of all drives. If you prefer, you can unformat/format the new drive (instead of renumber).

##### Notes:

1. Drives are no longer being shipped with the system database.
2. SYSDESTROY will be changed to also prompt for the ctrl/drive.



Product Support

### "Star of the Quarter"



Melinda Zisko, Supervisor, IDM Software Support.

Britton Lee knows the importance of providing product support in a range of services to accommodate individual needs. One goal of Britton Lee's Software Support group is to provide around-the-clock telephone assistance for problem resolution. As a member of the support team, Melinda Zisko, Supervisor, IDM Software Support, deserves special recognition.

Melinda was born and raised in Honolulu, Hawaii, and left the islands to start her college education. She received a Bachelor of Science degree in Computer Science from Northrop University, where she supervised the day-to-day operations of the Computer Science Department and assisted the Department Chairman on the restructuring of the Computer Science curriculum. Melinda also taught Fortran labs and was a lab consultant supervisor at Northrop.

While in Los Angeles, Melinda worked on command, control, and communications software applications at Logicon. Prior to Logicon she wrote software specifications and designed a portion of the CADAM external interfaces at the CADAM Division of Lockheed. Melinda also developed software documentation at Hughes Aircraft, Radar Systems Group. She joined Britton Lee support three years ago and now heads the Database Machine group.

## Training News

### Courses Being Considered For The Future

Recognizing the need for comprehensive training, Britton Lee has placed additional emphasis on enhancing its course curriculum.

"We are committed to enriching our curriculum to meet the needs of a new and expanding customer base," said Judith Obarr, Director of Client Services.

Current offerings include: the Systems Applications course, which presents the IDM as seen through Britton Lee's host software front-end environment; the Systems Performance course, which addresses systems internals, performance issues and methods for improving IDM operations; and the IDM and RS Maintenance courses, which cover all aspects of database machine maintenance.

The preliminary curriculum is being designed to provide the skills and knowledge required to optimize Britton Lee's relational database technology. Courses being considered for the future include:

#### Introduction to SQL Course

For the experienced applications programmer who understands operating system concepts. Students will learn to read and compose SQL commands using SQL and the IDM. Emphasis will be placed on database management systems, host software, SQL concepts and facilities. Class exercises will include use of the SQL data manipulation language for joins, aggregations, subqueries, correlated subqueries, transaction management, views and stored commands.

#### Concepts Course

Designed to provide an introduction to Britton Lee's relational products, this course provides the substructure for understanding database concepts and use of relational DBMS'.

#### Programming Courses

For the experienced "C", Fortran, or Cobol programmer who designs user interfaces to the IDM. These courses will cover various programming tools, use of basic interfaces and instruction in coding and debugging programs.

#### 4GL Course

This course provides an overview of the 4GLs available for use with Britton Lee's database machines. It is targeted for individuals with a working knowledge of Britton Lee products.

#### DBA/Systems Administrator's Course

Designed to provide the system administrator with the knowledge needed for maintaining the IDM system and user databases after design has been completed. Security, database performance, optimization techniques, and backup procedures will be addressed.

"In addition to providing new class curriculum, we plan to offer courses on a regular basis within the different geographic regions of the U.S., Europe and Asia," Obarr said. "The close ties between the goals of training, consulting, and support emphasize the Britton Lee philosophy that well-trained and supported customers are satisfied customers."

### Fast Start Consulting Program Is Off And Running

**Fast Start**, the first in a series of customized workshops developed by BLIS' Client Services department, is now available to Britton Lee customers.

Fast Start is an information-intensive workshop specifically designed to get Britton Lee clients up and running quickly on their first database machine application by providing personalized tutoring and consulting for their database staff.

A typical five-day Fast Start workshop covers data analysis, database design and machine setup. SQL and the programming language interfaces are covered with more concentration on specific needs. Since the Fast Start workshop is conducted at the customer's site with their IDM and host computer,

all permissions, user accounts, user databases, loaded relations and other workshop accomplishments are immediately accessible when the workshop is over.

Client Services conducted the first Fast Start workshop at Hughes Aircraft Company in El Segundo, California. The program was well received by those who attended.

"The workshop provided each individual with information specific to that individual's needs," said Ann Martin, a Hughes workshop attendee. "The flexibility of the workshop was excellent."

Those interested in providing the individualized attention needed to quickly bring their staff up to speed—at their site, with their data—should contact their local Britton Lee sales representative or Britton Lee Corporate Headquarters.

*Solutions* is the BLIS-specific section of *Britton Lee Ink*. *Solutions* will be included in every *Britton Lee Ink* publication to keep our clients, prospects and associates well informed on BLIS activities. For further information, contact the Integrated Systems Division, (408) 378-7000.

#### SOLUTIONS EDITOR

NICOLE GILBERT

#### VP AND GENERAL MANAGER

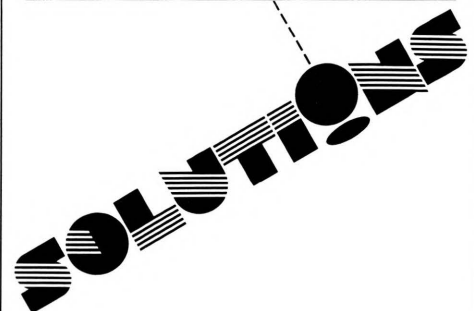
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## Everybody's Talking About Britton Lee

“

The following excerpts were taken from "Intelligent Database Machines" a two-part article featured recently in *The DEC Professional*. The review was authored by Philip A. Naecker, a Southern California-based consulting software engineer.

*"Relational databases have received more press than just about any other software topic lately, except possibly networking standards. Britton Lee, Inc., Los Gatos, California, markets intelligent database machines and relational servers that combine both of those hot topics and add the lure of data sharing, high-performance computing on PCs, and possibilities for excellent price-performance ratios for database operations."*

*"The real strength of the BLI architecture is its tremendous egalitarian attitude toward data. A BLI database machine doesn't care who it's talking to (or more specifically, what kind of host machine you're using). Besides your friendly VAX or MICROVAX, the BLI machine will talk to PCs running PC-DOS or MS-DOS, UNIX boxes, Big Blue boxes, and a whole host of minis."*

*"Today, having a relational database is not like being pregnant—you can be partially relational, but the most worthy vendors admit their products don't have all the relational attributes that a perfect relational database should have. They state openly that they're seeking ways to add additional relational capability. For those looking and BLI as a relational database solution, I'm happy to report that the company falls into this latter category."*

*"My assessment of the BLI offerings is that they are well crafted. There seems to be a solid commitment toward a first-rate relational database, and it certainly isn't a here-today, gone-tomorrow organization; not with roughly \$30 million in annual revenue and an installed base of 600 IDMs and a bunch of RSs."*

*"I am most impressed with the richness of the user software offerings, and with the breadth of choices in hardware and host environments. There simply are not that many alternatives available if you want to access a database from PCs, VAXs, and other large hosts."*

Reprints of this and other articles about BLI are available through Britton Lee's Marketing Communications Department.

”

# Analyst Recommends Long Term Investment In BLI

Britton Lee common stock, traded on the NASDAQ National Market System (NMS) under the symbol "BLII," was recently praised as a good investment by a reputable San Francisco-based brokerage house.

A report written by analyst Peter Ting of Davis, Skaggs (a division of Shearson Lehman Brothers, Inc.), recommends the purchase of Britton Lee stock to, "aggressive long term oriented investors who wish to participate in an exciting accelerating growth industry through a well managed, financially solid, technologically and marketing driven company."

According to Ting, four main factors contribute to building a strong investment forecast for Britton Lee, Inc.:

1) **Britton Lee's growth potential:** "BLII has significant earnings growth potential over the next 3-5 years," Ting said. "The average annual compound growth rate for earnings over the next 3-5 years

could reach 30 percent."

2) **Britton Lee's position as the leader in database machine technology:** "BLII has the largest installed base of database

## Annual Meeting Announced

Britton Lee shareholders are invited to the Company's Annual Meeting, which has been scheduled for May 14 at Britton Lee's Corporate Headquarters.

The meeting will begin at 10 a.m. at Britton Lee's corporate conference facilities, 151 Albright Way, Los Gatos, California.

For more information about the meeting, contact Britton Lee's Investor Relations Department.

machines in the world," he said. "BLII's machines have an enviable track record of outperforming other RDBMS on a price/performance basis as well as on a pure performance basis."

3) **Industry-wide trends:** "BLII will benefit significantly from the secular growth of the database machine industry which is being fueled in part by the movement toward decentralization of computing power."

4) **The company's solid financial status:** "BLII's financial position is impeccable with over \$4 million in cash and a solid book value of \$3.00 per share," Ting said. "Given a market valuation of approximately 1.00X and .75X projected calendar 1986 and 1987 revenues, BLII is undervalued relative to the market and downright cheap relative to the technology sector."

In summarizing the report, Ting wrote: "In light of BLII's leading position in the industry, its strong financials, its significant long term growth prospects, we view the current price of Britton Lee to be an attractive entry point for aggressive long term oriented investors who are not averse to having some technology in their diets."

Reprints of the report are available through Britton Lee's Investor Relations Department.

## Record Net Sales Highlight Strong Fourth Quarter

Britton Lee recently announced record net sales for any quarter in the Company's eight-year history.

Net sales for the fourth quarter ended December 31, 1986 were \$9,027,000, compared to \$7,425,000 for the same period in 1985, a 22 percent increase.

"Net sales increased substantially the past two quarters, culminating with the first \$9 million quarter in the Company's history," said Britton Lee President David L. Britton. "At the same time, the Company's backlog continues to increase."

"Based on planned product introductions, an expanded sales presence, and increased capital spending, we expect Britton Lee to increase its growth and profitability for 1987," Britton added.

### QUARTER ENDED DECEMBER 31 (In thousands except per share amounts)

	1986	1985
Net Sales	\$ 9,027	\$ 7,425
Net Income	75	366
Earnings Per Share	.01	.04

### YEAR ENDED DECEMBER 31 (In thousands except per share amounts)

	1986	1985
Net Sales	\$ 31,496	\$ 29,081
Net Income	135	2,855
Earnings Per Share	.02	.35



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JAKE MCGOWAN

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SCOTT HUMPHREY

#### PRODUCTION

CULVER GRAPHIC DESIGN

#### TYPESETTING

TLC GRAPHICS

This chart shows the results of a benchmark test run by a major financial software service in May, 1986. This application is designed to be used by a financial market trader trying to evaluate his immediate position in a fast-moving market. Clearly, rapid response time under heavy load is essential in this application.

Technical personnel from RTI, Oracle and Britton Lee gave support to the effort; each product was tuned to run optimally. The queries were identical and run on identical tables and indices.

The database consisted of a *trades* table of 30,000 300-byte rows, and a smaller *instruments* table to identify a join. Trade and current pricing information were contained in the *trades* table for various financial instruments. Thus an unrealized Profit and Loss

## Financial Services Benchmark Results

figure could be calculated for each financial trader with a single aggregate query expressed here in SQL:

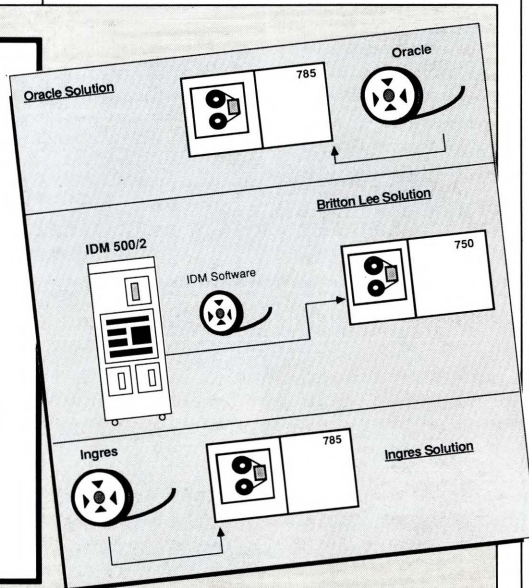
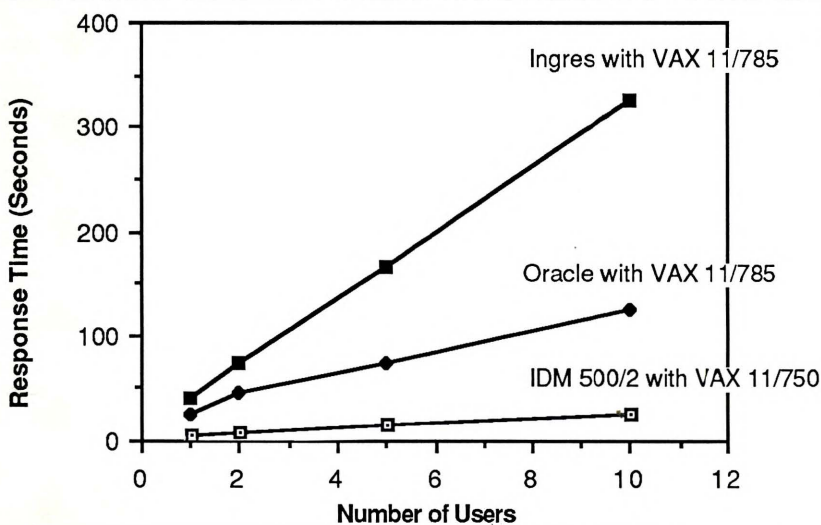
```
select sum ((trades.price - instruments.price)*
trades.qty/100)
from trades, instruments
where trades.trader = MYTRADER
and trades.instr = instruments.name
and trades.status = 4
```

Index on trades (trader,status)

The parameter MYTRADER had one of six randomly determined values. The Response time is the average time to complete this query under various numbers of concurrent processes executing the same randomly determined queries.

The current Britton Lee IDM 700/4 database machine is 35% faster than the IDM 500/2 used for the test. In the chosen price range, Britton Lee provided the only viable answer in a relational database. The choice was made to build with Britton Lee.

For further information on this performance test and others, contact Britton Lee Marketing.



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