

THE DOWNSIZING JOURNAL

Dedicated to Downsizing & Distributing Critical Applications
Editor: Dr. George Schussel

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DOWNSIZING *Outlook*

Dr. George Schussel

DSJ is to keep you informed about what's happening in this important and rapidly evolving field: the migration of applications from time-shared mini and mainframe computers to the network based computing world of workstations, servers and PCs.

Downsizing is becoming the dominant computing trend of the 1990's, especially for MIS organizations. No other project will be as likely to save you money and improve your operations as downsizing will. The companies and organizations that take advantage of this important new technology will gain a competitive edge that will prove crucial as the decade progresses.

More than most other IS technologies, downsizing has the reality, immediacy and statistics to be a "silver bullet". The major benefits of downsizing include cost reductions, faster systems development, and better running delivered systems.

(continued on the next page)

BORLAND/ashton-tate

by Dr. George Schussel

Database technologies are fundamental to any downsizing equation. The integrity, security, recoverability, and real-time response offered by DBMS approaches are all qualities that can be found in good applications. When the two leaders in the PC DBMS industry agree to merge, as Borland and Ashton-Tate did this past July, the implications for computer users are manifold.

Business

The high price that Borland is willing to pay for Ashton-Tate would seem to indicate that they are not concerned about the marketshare losses that Ashton-Tate has incurred

since the introduction of dBASE IV. Borland has offered \$17.50 per Ashton-Tate share, which had been previously trading in the \$10 - \$11 range. With slightly more than 25 million shares outstanding, that puts the price for Ashton-Tate at approximately \$440 million.

Borland is paying a price/sales ratio of 2/1, which would be typical if Ashton-Tate were a healthy, profitable company. However, in recent years, Ashton-Tate has been neither profitable nor healthy. The fact that Philippe Kahn, Borland's President, is willing to pay \$17.50/share proves how valuable the ownership of an industry standard like dBASE can be.

(continued on page 7)

A Million Dollar Savings

"We have saved over a million dollars by using a client/server architecture," claims Mike Ventry, Director of MIS for Loral Information Display Systems, the Atlanta, GA division of NY-based defense contractor Loral.

Loral Information Display Systems was one of the first firms to realize the benefits of downsizing. In 1982, the Atlanta division purchased a Britton Lee IDM 200 database machine for defense-related projects.

Their original plan was for all in-house processing to be done at corporate headquarters until volume warranted buying a mainframe.

But, Mike Ventry and his staff had a better idea.

They calculated that it would be possible to handle all in-house processing with the Britton Lee IDM 200 in combination with a handful of PCs. The Britton Lee machine, now called Sharebase, is marketed by Teradata in El Segundo, CA.

By using a Teradata machine as the server and PCs as the clients, Ventry never had to buy an expensive mainframe. This configuration has served them well as Ventry explains, "My budget is now significantly less than other Loral divisions." ■

Downsizing Outlook...

(continued from front page)

Cost Benefits

Perhaps the most obvious benefit of downsizing is the enormous reduction in cost. The cost for a million instructions per second (MIPS) on a PC is \$200 - \$700; on a mainframe the cost is over \$100,000.

Some question the validity of this MIPS comparison, arguing that mainframe MIPS are more powerful than Intel PC MIPS. Mark Ames wrote about this debate for the May 6, 1991 issue of *Computerworld*. His article reviews different benchmarks run with PCs and mainframes during the 1980s. He concluded that the performance potential of PC MIPS is typically overstated by 50 - 300%.

Assuming that Ames' research and results are correct (which I believe they are), I can conclude from his article that the improved price/performance ratio for PC-based applications running on PC hardware is 35/1 rather than 100/1. In either case, it is obvious that downsizing can save a lot of money.

Enormous hardware savings are possible when downsizing. Just consider the amount of money saved by replacing a \$2 million mainframe with twenty or so \$5,000 PC workstations and a server.

Such hardware savings are not strictly limited to CPUs. Currently, disk arrays from Compaq cost approximately \$7/megabyte compared to IBM 3380 DASD storage for IBM mainframes, which costs over \$200/megabyte.

Along with less expensive hardware comes software that is priced accordingly. The cost of the software needed for a modern distributed network of workstations is significantly cheaper than the

software needed for comparable capability on minis or mainframes. After you have purchased the LAN management software needed for your downsized platform, you will still have room in your budget to purchase a graphical interface and a fancy, windows-based 4GL with companion relational DBMS.

By moving to PC and workstation platforms, you are moving right into the heart of "open systems" territory. Because of the large number of suppliers and new technologies, price and service competition are strong. Users who are committed to downsized platforms will be able to choose from many vendors and will enjoy a significant degree of vendor independence.

Real Savings

Downsizing can also yield significant savings in personnel and administrative costs. While these savings are more difficult to document, they are no less real. At Digital Consulting, Inc. Downsizing Conferences held over the last year in Boston and San Francisco, spokespeople from major corporations including Texaco, Mobil, Hyatt, Echlin, and Harris, recounted how their budgets for IS systems or departments were radically reduced after implementing downsized systems.

At a DCI conference in Boston last year, the former MIS manager at Echlin, a \$1 billion manufacturing company located in Connecticut, described his experience of moving from an IBM 4341 to a network of 30 80286 PCs. The Echlin staff rewrote the mainframe applications from COBOL to PC/FOCUS. This conversion took about 18 months. When the plug on the mainframe was pulled, the total budget for running Echlin's corporate data

center dropped from \$1,800,000/year to \$700,000/year!

Saving The Mainframe

I also recently heard about the use of downsizing to offload a mainframe by using a LAN and client/server DBMS as a backend database machine. This case is unusual because the newer technologies are typically used in *front* of a mainframe to do local edits.

In this particular situation, the mainframe was part of the portfolio application set for a mature financial services firm. The company was locked into a top of the line IBM 3090 and needed more processing power, but didn't want to trade machines. The portfolio application was also tightly integrated with other applications run at the firm.

The resulting solution was to network a LAN with PC-based servers to house the data for the application. Since the mainframe-based application was already run-

ning on DB2, the conversion to a SQL-based LAN server was straightforward. The conversion was completed on time, and freed up approximately six MIPS of 3090 power. It is estimated that as a result of this downsizing project, the life span of the 3090 was extended by about two years.

Saving Face

Of particular interest to those who specialize in application development is the fact that building new systems on PCs and workstations appears to be twice as efficient as building the same applications on time-shared mainframe or minicomputer terminals. For example, application developers can enjoy real time responses when developing and debugging on PCs.

Another benefit of downsizing is the tools and environment advantage of PC/workstation platforms. Most people find the idea of debugging with a multitasking windows-based

platform far friendlier than using a time-shared terminal. For example, by using a multitasking platform, a developer can run the program source code in one window, a debugger in a second window, and watch the program output in a third window while stepping through the program, one line at a time.

Conclusion

Clearly, downsizing is an important trend that is here to stay for this decade. Running applications on downsized hardware can yield significant savings in hardware, software, time, effort and money. Your company can't afford to ignore the tremendous savings downsizing can offer. ■

Dr. George Schussel, Editor of The Downsizing Journal, is a leading commentator on software technology and computing architectures, and is a noted futurist who accurately predicts key software trends years before they occur.

Downsizing Offers Many Ways to Save

The San Francisco Public Utility Commission (SFPUC) recently saved approximately \$100,000 by deferring a mainframe upgrade. The SFPUC downsized from a mainframe-based IDMS system to a PC LAN-based IDMS system. They accomplished the downsizing without having to rewrite the IDMS applications! (See "Getting Started With Downsizing" on page 8 for additional details.)

The system was downsized by two developers (one working full-time and the other part-time) over the course of one month. The new downsized schedule inquiry system now serves the 760,000 weekday riders of the San Francisco Municipal Railway (MUNI).

Rod Loucks, Manager of Application Development for SFPUC, explained, "We've saved mainframe resources while improving response times. We've also addressed the growing desire for PC and LAN-based solutions while protecting our investment in IDMS technology."

This new downsized system is also expected to bring SFPUC additional savings. By expediting the information retrieval process, the MUNI Telephone Information Center operators will soon be able to process 16% more calls without any additional staff. ■

Apple/IBM: Winners and Losers

by Dr. George Schussel

The Apple/IBM agreement is one of the most interesting and exciting events to occur in the computer industry recently. That these two former enemies will combine forces to create a new desktop computing standard, is a landmark event that will have profound effects on the entire industry.

The motivation behind the collaboration comes from the marketing and production problems both companies have experienced in the desktop computing arena. Historically, Apple's principal problem has been high-priced computers. More recently, bigger problems have resulted from the tremendous popularity of Microsoft's Windows, since clone computers running Windows can effectively emulate the Mac platform at half the cost.

IBM's problems in the desktop market have stemmed from an inability to deliver exciting new products on a timely basis. Disasters such as Office Vision have been common. The newest IBM laptop computer, the L40SX, is technically competitive, but at a current price of over \$5,000, it will not triumph in the market. As a result, IBM is losing sales to clones from both high-end vendors such as Compaq and AST, as well as low-end Asian imports.

The Agreement

The essence of the agreement is that Apple and IBM will jointly own a new software company. This new company's research and designs will be a combination of some of the

object oriented efforts developed at Patriot Partners, with the work Apple has been doing on the Pink project. The goal for the new company will be to create an object oriented software platform that can run on three hardware architectures: Intel x86, Motorola 680x0, IBM RS/6000.

At the time this article was written, it had not yet been announced whether or not the new Apple/IBM software platform will be licensed to other vendors. But if IBM and Apple wish to establish a new desktop computing standard, they will have to aggressively open the software. IBMers have used the name "Power Open" to describe such a potential governing consortium.

"All computer users can look at the 1990's as promising an important and exciting choice of desktop computing platforms."

The Apple/IBM agreement will provide significantly enhanced connectivity for Apple PCs as clients into existing IBM networks. Apple and IBM will build workstations (enhanced PCs) around a second generation RS/6000. As a result, both companies will sell workstations with Mac-like GUIs on IBM designed chips. For the first time, IBM and Apple products will look substantially alike.

Motorola has been designated as the second supply source for the RS/6000 chip. However, Motorola will produce single chip implementations instead of the three chip implementation that IBM currently uses.

This agreement will be a very good deal for IBM, and probably a good deal for Apple. However, its repercussions go far beyond Apple and IBM. This announcement has by itself, with no products yet delivered, has already created winners and losers of many key industry players.

The Winners

It appears that the four groups with the most to gain from this new partnership are IBM, Motorola, Apple, and general computer customers world-wide. (See this month's Current Computer Wisdom on the following page.)

IBM. Traditionally, IBM software has had a well deserved reputation for being unexciting. As a result of the new agreement, Apple software technology will be available on IBM hardware platforms. With Apple GUIs running on IBM hardware, the Apple/IBM team will be producing a credible alternative to Microsoft's New Technology (NT) software system, or Windows 32 which is likely to be the operating system for the Advanced Computing Environment (ACE) consortium lead by Compaq and DEC.

If the Apple/IBM software platform and environment are opened, not only will it rival Microsoft

software running on ACE hardware, but it will also become a viable alternative standard to the current x86 clone technology. This new open environment will be better for IBM than the current clone environment since IBM will retain control over any hardware or software licensing agreements. Now that Microsoft and IBM have in effect divorced, IBM does not have any control in the licensing of DOS or Windows.

Another benefit for IBM will be that after a "Power Open" alliance has been forged, there will exist a mechanism for opening the RS/6000 architecture, IBM's answer to RISC. The RS/6000 is a hot-rod performer, but so far has been proprietary to IBM AIX workstations. If IBM decides to market the RS/6000, they might steal a portion of this profitable market from SUN SPARC RISC chips.

Before IBM and Apple struck this deal, IBM must have been apprehensive about the pending Apple/Microsoft copyright infringement law suit. If Microsoft loses the suit (which many analysts feel is likely), the impact will leave Microsoft with serious financial and technical problems concerning both Windows and Presentation Manager products. However, now that Apple and IBM are partners, it may be possible for IBM to secure rights to the Apple-like, potentially infringing features found in Presentation Manager. In this event, Microsoft will be forced to solve the potential infringement problems of Windows on its own.

Motorola. One of the largest semiconductor manufacturers

in the United States, Motorola has been eclipsed in the microprocessor production business by Intel. Motorola's 680x0 microprocessor line is popular for engineering workstations, but as that market migrates onto RISC chips, the future for the 680x0 microprocessor isn't favorable.

Prior to the Apple/IBM deal, the future of Motorola's computer processor architecture had looked bleak. Motorola's design for RISC, the 88000 chip, has been abandoned by many of its early adopters. At this time, the only consequential 88000 user is Data General. But, by becoming the second source for the RS/6000 chip, Motorola will join Intel as a supplier of microprocessors for workstations and servers.

Apple. Yes, Apple could emerge from this deal as a winner, but Apple is also taking many risks in becoming involved with IBM.

Apple will benefit from its partnership with IBM by becoming a credible supplier of workstations for the business computing environment. Apple connectivity into existing IBM networks will be assured. This new, safer image is a tremendous marketing benefit for Apple: the

combination of credibility in the corporate environment and connectivity into IBM networks makes Apple a winner.

Users. Finally, the ultimate winner appears to be computer customers. All computer users can look at the 1990's as promising an important and exciting choice of desktop computing platforms. The Intel x86 line with Microsoft Windows will continue to be prevalent. In addition, the existence of ACE and the Apple/IBM consortium, means that desktop platforms will become very powerful in the future and move into new and exciting multi-media areas.

The Losers

Microsoft. The company with the most to lose from this agreement is Microsoft. It seems like everyone is out to get Microsoft. Apple started the trend a few years ago with a copyright infringement law suit. More recently, IBM's disagreements with Microsoft have been well publicized.










Over the past few years, Microsoft has become an enormously profitable software powerhouse. This was accomplished by their

virtual domination of the PC operating systems market. Microsoft controls DOS, OS/2 (partially), and Windows 3, which when combined, account for most desktop computing environments world-wide.











Had IBM chosen to challenge Microsoft without forming an alliance with Apple, it would not have been a credible threat. However, the combination of IBM's

What impact will the recent Apple/IBM agreement have on the computer industry? Our computer gurus have given us the following wisdoms:

The Winners

-    **IBM**
-    **Motorola**
-   **Users**
-  **Apple**

The Losers

-    **Intel**
-   **Microsoft**
-   **HP**
-   **Data General**
-  **Compaq**

Current Computer Wisdom

tremendous presence with Apple's software creativity will result in a new viable alternative to Microsoft software running on clones. Microsoft will definitely lose from this agreement *if* the new partners can deliver the promised products at good prices, and on time.

Intel. The Apple/IBM deal will adversely impact Intel by making Intel less important in IBM's future. If future generations of the RS/6000 and its object oriented operating system prove to be quality environments, one can easily envision a future where the Intel microprocessor plays a smaller role in IBM's desktop computing environment. By 1995, due to the heavy competition from SUN, Apple, Apple/IBM, and ACE, Intel will have less dominance on desktops.

Compaq. By acting as key founder of ACE, Compaq has reduced its opportunity to become a technology leader. This is true because the new Apple/IBM firm will create a desktop standard challenger that will not be compatible with either ACE hardware or software. By losing IBM compatibility, the overall market impact of Compaq's technology will diminish.

However, there may be a bright spot in this cloud for Compaq and ACE. Given that over 60 companies have announced support for the ACE environment, any ACE operating system is guaranteed to be attractive to software developers. This attractiveness sharply contrasts with the recent reports that IBM has been paying software developers to work with OS/2.

IBM and Apple may find that the "Power Open" standard is weak when compared to emerging Microsoft-based competition. The fact that the first versions of

Windows NT are shipping in 1992, while products from the "Power Open" duo aren't due before 1994, further weakens the impact of the Apple/IBM agreement on ACE.

Data General. Data General has successfully separated from its proprietary AOS architecture, and has moved into UNIX-based architectures. Unfortunately, DG's future is contingent upon the 88000 chip from Motorola. The problem is that the 88000 chip doesn't appear destined for high volume production since it hasn't been adopted by enough vendors.

It would not be a surprise to see DG redesign its AViiON series to run on a different microprocessor chip.

*"It seems like
everyone is out
to get
Microsoft!"*

Hewlett Packard. Recently, Hewlett Packard founded a consortium for the Precision Architecture RISC environment. HP's staff has been quoted as saying that the consortium will be "very selective". It will be very selective as all of the key industry players have already formed alliances with either ACE, SUN/SPARC, or Apple/IBM. Certainly HP's Precision Architecture is an excellent product, but its importance as a standard in the mid-1990's will be minimal.

Apple. Apple is one of the winners mentioned earlier, but also has the potential for being a loser. Unlike IBM, Apple is taking a significant risk by giving up the uniqueness of its product line. In the

past, Apple could demand high prices as their products were better than any alternative. That uniqueness has been disappearing with the advent of Microsoft's Windows, and will vanish once the Apple/IBM team start producing computer products.

There is no way to look at this agreement and not see a future where IBM and clone computers will closely resemble Apple products. One then has to ask, is there any way that Apple will be able to continue a high-priced strategy? I doubt it.

This means that the past profitability Apple enjoyed due to high margins based on high prices will likely be lost forever. This means that Apple must succeed with their software business, or else they will not remain a force in the desktop computing industry.

The Envelope Please...

In summary, the agreement is probably very good for both partners. Before the agreement, Apple would have been well advised to create an open Apple system requiring ASIC chips and the Apple operating system. Unless Apple and IBM aggressively promote and license the new technologies that they develop, the resulting system could end up being as inconsequential as IBM's microchannel. You can't "ooze" a standard, you have to shout it (as Sun has done).

The evolution of this agreement will be fascinating to watch. It will undoubtedly change over the next few years. The resulting products, when delivered, will probably forever change the direction of desktop computing environments. ■

BORLAND...

(continued from front page)

dBORLAND?

Subsequent to the merger, it's likely that Borland will not retain the Ashton-Tate name. After all, it is the dBASE language, not Ashton-Tate, that has generated loyal customers on a continuing basis. Further more, the release of the faulty dBASE IV 1.0, and the unpopular lawsuit filed by Ashton-Tate against Fox Software, have both devalued the Ashton-Tate name. In sharp contrast, Borland's name has mostly positive connotations as a direct result of their customer support, product efficiency, and effective marketing programs. In addition to technical and marketing expertise, as Ken Wasch, Executive Director with the Software Publishers Association recently said, "Corporate users think Borland is listening better than any other software company -- that's why they came in first in a recent J.D. Powers customer satisfaction survey."

dBASE Sales

It would not be surprising to see dBASE products' sales decrease while potential buyers decipher the market impact of the merger. Current dBASE users will need to assess the quality of support they can expect from Borland. In the interim, developers might want to move their development environments to either Fox, Nantucket, or another xBASE vendor. I do expect a sales slow-down while the new positions in the PC DBMS market are determined. Borland is famous for its aggressive selling style, and low-priced products. Smart

customers know that price reductions are imminent, and therefore will probably curtail purchases until Borland offers some price reductions.

dBASE Technology

Although Ashton-Tate has recently had a poor reputation for developing new technologies, Borland enjoys a superb reputation based on their technical excellence. The combination of Ashton-Tate's dBASE language with Borland's technical and marketing management will be dynamic. The result of the merger will be a powerful firm that can, and will, effectively challenge Lotus for the number two PC software sales position. The proof of this is in Bill Gates' infamous May 1991 memo where Gates indicates that the two competitors he is most concerned about are IBM and Borland. That is quite a compliment for Kahn.

Both Rob Dickerson, Borland's database group head, and Kahn have made statements promising a new product environment that will be upwardly compatible with both Paradox and dBASE. Many independent observers feel that Borland underestimates the degree of difficulty involved in creating a database product which is to be compatible with two systems whose languages and views of data are very different. I think that the operative word here is **caution** -- don't accept any up-grade/compatibility promises too soon. The safest bet right now is to plan on building your environment with currently available and easily extensible products.

Interbase - The Hole Card?

Ashton-Tate is no longer considered a technology leader in the dBASE marketplace. Since Borland already produces a Windows-based, dBASE IV compatible compiler, it's reasonable to assume that Borland's development teams will initiate future technology advances. The one exception to this rule will be Interbase, a Bedford, MA company that Ashton-Tate recently acquired. Interbase, founded by Jim Starkey (a leader in the development of DEC's Rdb product), is a technology leader in client/server, SQL-based computing.

With approximately 50 employees, Interbase is relatively small and unknown. In the past, most of their products have been marketed to engineering environments. I recently visited Interbase for a software technology assessment. They have an impressive, distributed SQL DBMS with such advanced procedures as BLOBs (Binary Large Object Bins), event alerters, and triggers. I feel that Interbase's software is technologically equal to both Sybase's and ASK(Ingres)'s database management systems.

While Ashton-Tate made an equity investment in Interbase a few years ago, very little progress was made towards integrating the companies' technologies. That lack of cooperation will hopefully change: while it is obvious that Borland is the PC database king, Borland is a small player in the area of networked, client/server oriented approaches. Now that Borland owns Interbase, they have an excellent "hole card" for moving into the networked, client/server DBMS market.

(continued on page 11)

Getting Started with Downsizing

by Barbara Bochenski

I recently heard an MIS Manager mutter that, "transforming old mission-critical systems is like giving a heart transplant to a long-distance runner while he's running a marathon."

Today, companies are dependent on their operational systems to keep their businesses running. MIS managers want to take advantage of the cost savings and benefits afforded by downsizing, but at the same time, cannot afford to jeopardize the firm's daily operations. This conflict leaves MIS managers wondering how, when, and where to get started with downsizing.

There are many ways to start downsizing your existing computer systems while minimizing unnecessary risks.

The various strategies on how to downsize platforms range from the conservative to the dramatic. One popular moderate approach is to plan an evolutionary front-end to back-end implementation. A more dramatic approach is to convert an entire mainframe system to a PC LAN architecture.

The following article details three popular approaches that can be used to begin downsizing mainframe shops.

and provides centralized database and dictionary services. CA-IDMS/PC also operates in single-user workstation mode. CA provides similar tools for CA-Datcom.

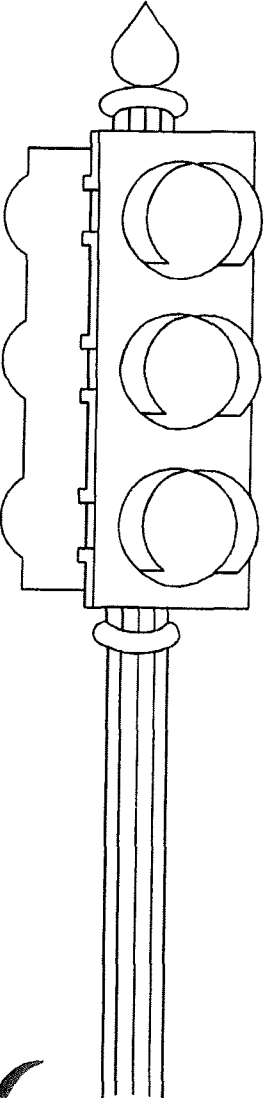
Computer Programming and Systems, Inc. (CPS), a Stamford, CT-based consulting and software development firm specializing in life insurance and reinsurance, used CA-IDMS/PC to downsize their mainframe applications for customers with PC LANs.

CPS's customers wanted CPS mainframe applications recoded for downsized PC platforms. The problem was that it would have taken three to five years to recode all of CPS's mainframe-based applications, and customers didn't want to wait. So, by using CA-IDMS/PC, CPS converted the mainframe IDMS applications into PC applications in a fraction of the time recoding would have taken.

Peter O'Karma, Vice President of Systems and Operations at CPS, says that at first, his customers could not believe that the PC-based systems were exactly the same as the mainframe-based applications. "After all, these systems were executing on IBM 3090s under MVS in two and three megabyte regions," says O'Karma. "Now, they're running on PCs." But, after the PC-based systems consistently provided customers with the same reliable results as the mainframe-based IDMS system, customers were not only convinced, but extremely satisfied.

What about IMS?

While IBM is not expected to announce a product like CA's IDMS conversion package, other software firms are busy researching ways to help IMS-bound sites.



“The trend towards downsized applications is inevitable.”

Plunge In!

Garden City, NY-based Computer Associates (CA) provides software for the more dramatic approach to downsizing. CA's software, CA-IDMS/PC, moves IDMS systems running on mainframes to PC platforms. CA's customers have reported tremendous success with the procedure.

CA-IDMS/PC operates as a database server in a multi-user LAN environment

"Everyone wants to replace their old IMS system," says Ravi Koka, President of Software Engineering and Enhancement Center (SEEC), based in Pittsburgh, PA. SEEC is a software products and services company that specializes in the re-engineering of COBOL/IMS applications to relational database environments, and the development of PC-based applications.

Koka believes that at many companies, a large percentage of applications will remain on mainframes for some time to come as the cost and risk of rewriting is still quite high. To tackle uncertainties, Koka's firm offers products that begin to reduce much of the risk associated with downsizing mainframe applications.

SEEC's software re-engineers the hierarchical data model into a relational data model. Then, the existing process is converted to work with the relational model. The re-engineering procedure uses a range of automated tools that extract knowledge embedded in the environment about an application, and transform that information into database definitions, application programs, and database interfaces.

For example, some of SEEC's tools analyze IMS schemas and then derive relational tables and views. Other tools perform a run-time analysis of application programs and then generate SQL interfaces.

"MIS departments will have to deal with legacy applications in some way," says Koka. "Tools that help convert existing IMS systems to a relational model will be welcomed. In this way, the mainframe could be retained as a server, and the move to a true client/server architecture can evolve as applications are downsized."

The Conservative Approach

A more conservative approach to downsizing applications involves a

phased front-end to back-end approach. As a first step in this process, graphical user interfaces (GUIs) are installed, replacing any existing 3270 screens.

By installing GUIs on clients, value is added to the computing environment. Graphical front ends have a lot of end user appeal. Not only is there a tremendous productivity factor involved, but new applications which could not have run on mainframes can now be developed. For example, the City and County of San Francisco Public Utilities Commission (SFPUC) plans to develop a map of the cable car system on a PC screen to help visitors travel around San Francisco.

"Transforming old mission-critical systems is like giving a heart transplant to a long-distance runner while he's running a marathon."

Umang Gupta, CEO and Founder of Gupta Technologies in Menlo Park, CA says, "I think graphics are the real driving force behind co-operative processing. People can do things with a graphical front end that couldn't be done with dumb terminals."
(Editor's note: At Digital Consulting, Inc.'s Software World in Toronto this past July, Arun Gupta, Chairman of DataEase International, disagreed with Umang Gupta (no relation) by saying, "What you're doing is getting a product on the PC that has a pretty front-end graphic. What do you gain by that? You gain one benefit,

appealing applications, but that's it. What you really get are a lot of disadvantages. Now, you have even a bigger task in terms of application maintenance. Every time you change an application on the mainframe, you have to change it on the PC. A graphical facelift doesn't give you any of the real benefits of downsizing.")

Once GUIs are running on clients, the next logical step would be to add database servers. One common approach is to download important mainframe data to servers, and let users query the server data. Then the mainframe data can be updated, and the server data refreshed, according to a pre-established schedule.

This type of client/server architecture is good because mainframe MIPS are too expensive to permit extensive end-user queries: numerous, lengthy queries can severely downgrade a mainframe's performance. By placing data on a LAN server, end users have more freedom in accessing and using data.
(Editor's note: I agree that this is a good, almost risk-free approach to downsizing.)

Selective Application Downsizing

Cheryl Currid, President of Currid & Company, believes that downsizing query systems is the easiest way to get started. "You can get these applications up while you're rethinking everything else."

Currid believes that departmental systems are another good candidate for downsizing. The benefit from downsizing smaller departmental systems comes from the security in knowing that your time-sensitive, corporate-wide systems are safe on the mainframe.

Advice from Herb Edelstein: Buyer Beware!

The case for downsizing is frequently presented on the basis of how it is going to save money. This can be a misleading argument. First of all, in classifying costs, there is a real difference between capital expenses and operating expenses. When I look at most cost justifications, they haven't really done a thorough job in terms of accounting for the differences between capital and operational costs. Most cost justifications are designed not to establish a case, but rather to justify a decision that people want to make.

What's more important than the savings that downsizing can provide, are the benefits. Much of the benefit that accrues, comes not from the actual downsizing, or downsized platforms, but from the fact that you're moving to a new architecture, a modern architecture key-noted by co-operative processing and GUIs. It is really the move to a distributed architecture that brings much of the benefits and cost savings that downsizers experience.

Downsizing is an aspect of what is the most fundamental change in the way we do computing, a change as fundamental as the introduction of computers to business 30 years ago. You can't stop downsizing, and you shouldn't try to. Downsizing is a good change that is going to take place over the next ten to fifteen years. Downsizing is a product of the idea of business re-engineering: a change to distributed systems and cooperative processing.

There is potential for cost savings from downsizing, but the real thrust behind the downsizing trend should be the long term benefits on the revenue side of business, and how you can use downsized platforms and software to help extend your business.

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We are a monthly review of key
developments, trends, and
technologies concerning downsizing in
the computer industry.

UPCOMING downsizing Events...

A big show that anyone interested in downsizing wouldn't want to miss is the **Downsizing EXPO and Conference**, being held in Anaheim, CA, September 10-13. At Downsizing EXPO, there will be over 75 companies exhibiting both software and hardware. At the Downsizing EXPO Conference, there will be over 75 speakers, and each with extensive downsizing knowledge. To receive your FREE pass for the Downsizing EXPO, or to reserve a seat at the conference, call DCI at (508) 470-3880.

Two other conferences this fall that will be of interest to downsizers are the November 5-7, **Database World**, being held this fall in Chicago, IL, and Cheryl Currid's **Managing Downsizing**, being held in Atlanta, GA, November 12-13. At the Database World conference, there will be a conference track devoted to downsizing technologies and issues. Featured lecturers will include George Schussel, President of DCI, Herb Edelstein, founder of Euclid Associates, Dr. Richard Hackathorn, VP of Technology at Micro Decisionware, Inc., and Richard Finkelstein, President of Performance Computing, Inc. At the Managing Downsizing conference, Ms. Currid, founder of Currid & Company, formerly Director of Applied Information Technology at Coca-Cola foods, will be talking about how to get your company prepared for a downsizing. For more information on these conferences, or to receive a catalog of all of the DCI shows, call DCI at (508) 470-3880.