Schussel's
DOWNSIZING JOURNAL

April 1992

In This Issue:

Converting Existing Applications to Client/Server Approaches

The problem with most new technologies is that they require you to throw away the applications you've built and start from scratch. This has especially been true for database conversions. I remember a project from the mid-1970s where Massachusetts Blue Cross wanted to convert several major applications from IBM to Honeywell computers. Since IBM's IMS database management system was an essential component of IBM processing, the applications were to be converted to Honeywell's IDS database management system on Honeywell 6000 computers.

Geo's Outlook
LAND OF THE RISING DOWNSIZING
A Diary from Japan

Dateline: March 1, 1992, In-flight

I am currently aboard Northwest Flight #3, non-stop from Chicago to Tokyo, courtesy of Compaq. Compaq's Japanese subsidiary, Compaq KK, is opening for business and I am being flown out to deliver a client/server computing seminar for a 700 person audience. The focus of the Compaq KK conference is *Joho Ishin* — an *Informational Renaissance*. In 1868, Japan was host to a *Meiji Ishin* — a major change in living as society moved away from

Converting Existing...

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On the surface, this seemed like a very reasonable effort. Yes, the word lengths on the Honeywell and IBM machines were different, but Honeywell had good COBOL conversion tools. Honeywell's IDS DBMS was a network model implementation and since networks are a logical superset of a hierarchy (the IMS data model type), the project seemed eminently doable.

After 16 months of conversion effort and no success, the joint Honeywell/Blue Cross team gave up the idea of a complete conversion. The logic of the applications was so enmeshed with the data models that using IDS to emulate another DBMS's data model produced neither programming nor developmental advantages, and in reality, extracted a performance penalty. Ultimately, the joint conversion team was *successful* — they discarded the idea of a "conversion" and redeveloped, rather than converted, the Blue Cross
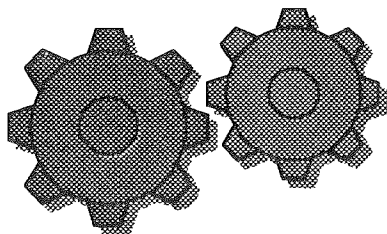
applications for the Honeywell IDS approach.

Since those days, new application development technologies such as relational DBMSs, 4GLs, and CASE have promised important productivity enhancements for the application developer. Taking advantage of these new technologies, however, has required users to rewrite existing applications. The questions then become: Will rewriting be necessary when downsizing? Which existing applications can be converted to client/server approaches?

...The full realization of openness is still in the future, but through efforts...the direction towards independence of tools from DBMSs is unmistakable...

Can we save our investment in existing code, especially if it's already relational?

The answer to all three questions is, well maybe, but probably not. The discussion below details some of my observations and experiences in reviewing a number of "conversions" to client/server computing.

✔ Change the architecture of the application

Let's first look at the technical process involved in building a client/server
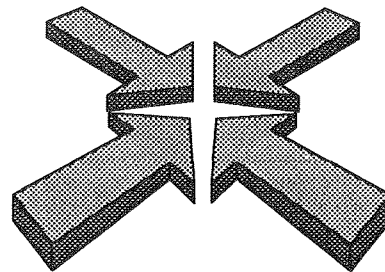
approach. Here, we confront a very different architecture — one that places applications on desktops and data on shared servers. Jim Davey, Senior Consultant for DCI, has been developing a new analysis approach for the client/server environment (an article from Jim is in the works). Regardless of the analysis approach used, it is clear that the native I/O code that once resided in the application will now be removed and/or executed on a different computer. So the first step in a conversion to client/server computing is to re-analyze data I/O and recode to accommodate any necessary changes.

✔ Change the application's approach to record locking

Along with the I/O code, a migration to client/server requires a change in the approach to record locking. With traditional applications, the record locking code is intimately tied into the process logic flow of the application program. With client/server, record locking

needs to reside almost entirely on the data server.

✓ Take advantage of stored procedures and triggers

Pioneered by Sybase and Ingres, client/server DBMS products have brought new functionality to database processing in the form of additional integrity. Stored procedures and triggers are the best known examples of the new functionality available on the server. Stored procedures are precompiled programs that reside in the database, and have both procedural and database access logic. They are activated by instruction from the application program. The advantages of stored procedures are found in reduced network traffic — instead of transmitting a series of program instructions to a remote server, the application can simply transmit a one line procedure call. Faster execution speed is a result of having a precompiled set of code that can be called and executed rather than being interpreted during a run.

Triggers are similar to stored procedures except that they are automatically executed whenever the status of the database reaches predefined conditions. For example, a trigger can be set so that whenever an entry is made to the OVERDUE table, action is initiated. Some DBMSs support a capability where triggers can be "cascading" and are initiated in series depending on the nature of the database activity.

Most system developers feel that these types of features are enormously valuable as development aids. They allow data-based edits to be properly stored with the database and uniformly applied for all programs with access. Anytime such a

...Client/server DBMS products have brought new functionality to database processing in the form of additional integrity...

"database concept" can be applied to program logic, development and maintenance ease are the results. Triggers and stored procedures are also available for DBMSs that run under time-sharing/host configurations, but their values are heightened in a client/server architecture.

The main point I want to make about features similar to and including triggers and stored procedures, is that most developers will be converting applications from a file or

database environment where this type of functionality isn't supported, and will want to take advantage of these new approaches. As business rules and validity checks are added to the database code, they will need to be pulled from the application.

✓ Re-architect and move to Windows-style

The application logic flow in a GUI environment is very different from panel-based, time-sharing applications. Most developers want to take advantage of the "Windows" look in designing new client/server applications. Color, pull-down menus, mouse control, multiple open windows, and icons will all change the logic flow considerably. Most developers have found that by taking advantage of these new capabilities, the number of different screens that must be navigated can be drastically reduced. They have also found that since much older application logic was centered around the flow of screens, none of the logic is salvageable for the migration to client/server.

Converting Existing...

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Surprise! Throw away your old programs

In review, the changes that need to occur when moving an application to a client/server environment are:

- splitting an application across two machines
- moving functionality from the application to the new database code
- redesigning the user interface

Interestingly, after all of these changes are made, most applications have nothing left to convert!

An Alternative Approach

Some software vendors are offering a short cut to client/server approaches and downsizing. They are selling as alternatives, PC and LAN-based products that are compatible with their older mainframe offerings. The idea here is to allow the customer to downsize (and possibly migrate to client/server) applications by simply running the older code on a PC platform rather than a mainframe.

Computer Associates (CA) and Microfocus are two leaders in this short cut approach. CA now offers PC-based implementations of its mainframe IDMS and DATACOM product offerings. Tools such as ADS/O and IDEAL have also been migrated to the PC. If you have an IDMS and ADS/O application running on a mainframe, it is possible to port that application down to the PC without changing 'any source code. Of course if you do that, your application will still look and operate the same. It won't have new GUI or trigger functionality, but then it won't need to be

...Some software vendors are offering a short cut to client/server...PC and LAN-based products that are compatible with their older mainframe offerings...

redeveloped either.

Many of CA's customers have found advantages in distributing their current applications in this manner to small remote offices without redevelopment or time delays. This form of downsizing also quickly takes advantage of the significantly cheaper MIPS available on PC platforms.

A large disadvantage of "short cut" downsizing, however, is that your application doesn't have the new Macintosh/Windows-type GUI, and isn't able to take advantage of the improved architecture offered through the stored procedure approach.

Another disadvantage is that the resulting downsized application is closely tied to the CA product line and therefore, is not *open*. Many of the new client/server-style tools are *open* in the sense that they are designed to work with any of the popular servers (SQL Server, Oracle Server, IBM's Data Base Manager, etc.). The full realization of openness is still in the future, but through the efforts of groups such as SQL Access Group, as well as individual vendors, the direction towards independence of tools from DBMSs is unmistakable.

The Microfocus approach to downsizing is to offer exact execution or simulation of mainframe products like COBOL, IMS, and DB2. Many customers don't want to run COBOL on the PC, but want to take advantage of the cheaper MIPS, faster turn around times, and greater programmer/developer productivity — all benefits realized when developing mainframe applications on PC platforms. Realia, a major Microfocus competitor that offers PC-based mainframe development tools (including COBOL), was recently acquired by CA.

XDB, another competitor, is currently selling a DB2 clone for PCs.
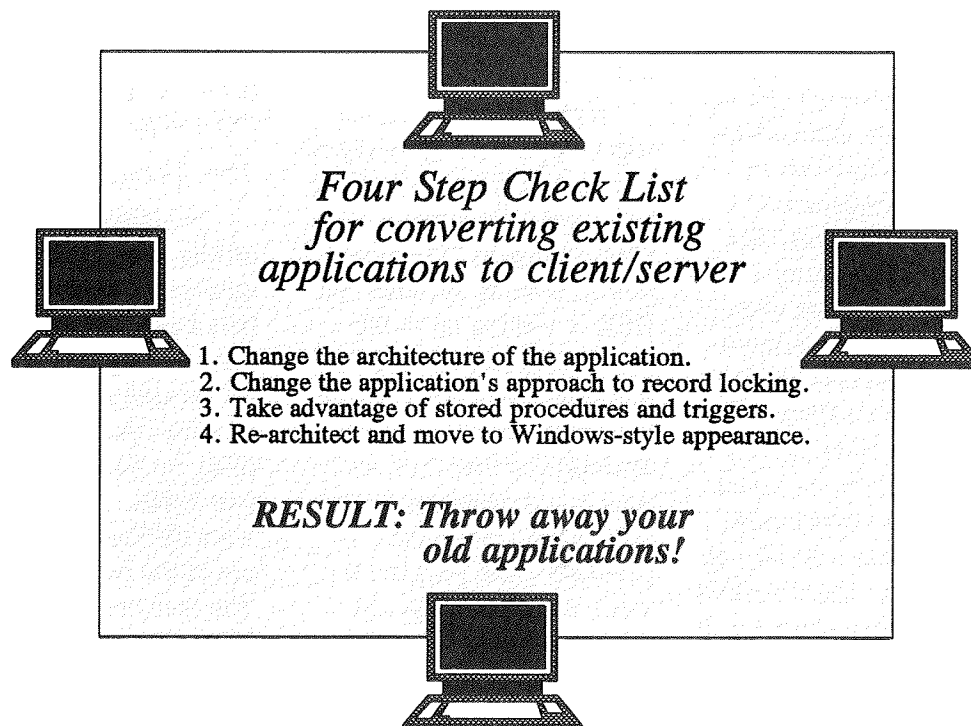
Conclusion

Some types of downsizing can be rather simple. If you want to migrate mainframe application development to PCs, there are tools that can help you do this quickly and with a good return on investment. Some mainframe software vendors have aggressively moved to offer downsized versions of their mainframe environments. Customers of these products can move to PC versions of their mainframe applications almost overnight. Those who take this path can later take advantage of the improved functionality offered by PC LANs by re-architecting their applications.

But, for maximum advantage from the added power, functionality, and richness of downsized, client/server approaches, you'll need to trash your old applications and rebuild them from scratch with the new generations of tools now available.

The good news is that new "Windows 4GLs" from companies like Revelation Technologies and Powersoft allow the application building process to proceed faster than ever before. And, the new generation of SQL-based servers offers performance and functional richness far superior to any previous database technology. *GS*

Four Step Check List for converting existing applications to client/server

1. Change the architecture of the application.
2. Change the application's approach to record locking.
3. Take advantage of stored procedures and triggers.
4. Re-architect and move to Windows-style appearance.

RESULT: Throw away your old applications!

Winners and Losers
April Edition

👎 IBM

👎 DEC

👍 👍 👍 The Economy

👍 👍 C/S Users

Current Computer Wisdom
Dr. George Schussel

IBM

Yes, I know that I've been IBM bashing lately, *but,* as I am writing this, the scheduled OS/2 2.0 ship date is only two weeks away. The last beta version has already hit the streets and from what I have heard, users are quite enthralled. Version 2 can run many Windows applications from within Windows, as well as DOS applications from within Windows. The desktop user can set up a working environment with background partitions monitoring stock indexes, managing faxes, and handling printers while running in the foreground partitions, word processing, electronic mail, graphics, database access, etc — all within protected regions and seemingly working on an integrated basis.

With OS/2 2.0, IBM has the potential for rekindling its love affair with many fans, but only if it ships on the scheduled date and works as well as the betas appear to indicate. I hope for IBM that this happens. However, if the delivery date for OS/2 2.0 does slip from March 31, 1992, my current sources indicate that the slippage should be small.

DEC

Both during my recent trip to Japan and upon my return to New England, I have had several discussions with DEC managers. The conversations seem to indicate that DEC is waking up to the blossoming downsizing movement, and wants to adjust technical and marketing strategies so that they are seen as a downsizing leader. DEC's top management is populated with people who were raised on VMS and mini-computers so making this management aware of the new realities of network-based, micro-systems has been a challenge. DEC has been rapidly signing agreements with the leading players in the micro revolution such as Microsoft and Novell. These agreements mean that DEC's network architecture will be able to integrate diverse computing platforms. The company now needs to develop a marketing strategy to take advantage of the developing integration technology.

The Economy

Beginning in mid-January of this year, DCI's weekly conference registration numbers have jumped sharply. As I am writing this column, we've seen eight solid weeks of sales figures unlike anything we have seen since the late 1980s. 1990 and 1991 were difficult years for people in the computer industry. The industry's heavy hitters, IBM, DEC, etc., for the first time in their histories saw loses, instead of revenues, lay-offs, and staff reductions. Small to mid-sized companies

Land of the Rising...

feudalism into the modern, industrial world. The Compaq *Joho Ishin* movement is meant to convey to the Japanese that white collar workers can now be individually served by the new downsized technologies.

I am looking forward to meeting Japanese computer users and assessing their reactions to downsizing issues. But, in order to examine this renaissance I need to understand the Japanese culture well enough to communicate. Several DCI staffers, as well as our Compaq liaison, have sent me notes on what is and isn't acceptable within the Japanese business world. For example, Japanese businessmen (there are very few women in Japan with responsible business positions) partake in a business card ritual — the presentation of the card is extremely important. While holding the card with both hands, and with your name facing the other person, you bow. When you accept someone's card, it is very important to study it and then place it in a significant location, such as a calendar, to symbolize the importance of the person and their job.

The itinerary

I'm starting to plan for my upcoming meetings with 1) Compaq Japanese officials, 2) downsizing users, 3) DEC/Japan's management (an entire day's meeting has been set to discuss how DEC can ride the Japanese downsizing wave), 4) the Japanese computer press, 5) leaders of Japanese subsidiaries of downsizing oriented companies including Novell, Microsoft, and Lotus, 6) M.I.T. alumni who are doing graduate work in Japan and want to speak to me about using computers to teach the English language to the Japanese.

Maybe the Japanese won't like downsizing

Based on the memos that I've already received from Japan, I know that discussions will center on the perceived problems of downsizing. The key issues slowing Japanese companies from downsizing appear to be:

- Security
- Network management
- Database management
- Application development efficiency and effectiveness
- True total costs including networks, management, development, etc.
- The possibility for distributed transaction processing
- Managing the downsized environment
- Changes in the MIS structure and hierarchy
- Use of packages vs. customized development

I have been told that Japanese companies are very interested in exploring new ideas including downsizing, but are very conservative in adopting them. Most want to see other Japanese companies implement the new technologies first. In addition, I have heard that the cost reduction of
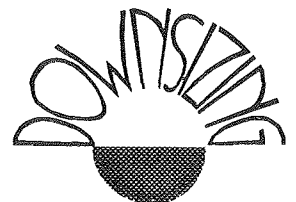
# Land of the Rising...

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IS budgets is not necessarily of top importance to Japanese management. Another major concern in Japan is the risk of failure and loss of face — this fear often means that MIS staffers choose proven, conservative technologies (time-shared mainframes) rather than more daring, risky technologies (downsizing). If these statements are true, then this type of environment could throw some cold water on my proselytizing.

Change the corporate organization

Another difference between Japanese and American companies is the Japanese management tradition. The Japanese form of management has been described as departmental consensus decision making with tight control and low tolerance for creativity or deviation from the norm. This type of organization does not seem to be compatible with the new American trend of smaller, entrepreneurial, downsized, and decentralized organizations, which go hand-in-hand with downsized computing environments.

For example, when advising American companies in the process of downsizing, I always address the matter of what to do with the large, central MIS department. In my experience, a move to downsizing is almost always accompanied by a reorganization of the MIS staff function. For many years now, I've been pushing the idea that MIS departments should focus more on standards, tools, databases, and networks. With this approach, I advise that most application development and operations be spun off to the divisional units when the

applications are division specific. Corporate applications, as well as corporate databases, should still be handled by servers managed out of a glass house. But, most applications in a downsized, client/server world will actually run at the user's desktop. Therefore, managing the distributed applications from a central organization is not something that I would advise.
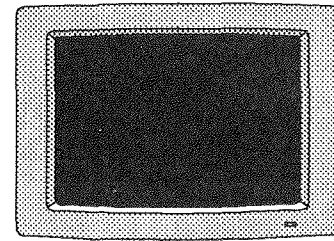

Computer screen show

One final thought during this flight is that I hope Compaq has the necessary video projection equipment so that I can use the Lotus Freelance screen show I've prepared. I have been using computer generated 35mm slides when addressing large audiences recently, but you never really know exactly what they're going to look like (line widths, color interpretation) until they are back from the developer. With a computer screen show, you give up the resolution fineness of 35mm, but in return, you know that the color and line widths are the same as they appear on your color VGA monitor. I also prefer the computer because the material can be updated on short notice, and I can build a certain amount of animation into the slides.

Dateline: March 3, 1992, Tokyo
Cultural and technical differences in personal computing

After meeting with Compaq officials, I am starting to understand more about personal computing in Japan. The first problem in using a computer screen
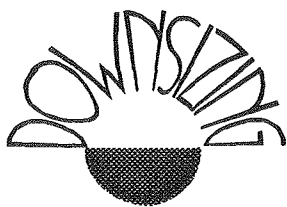
show for my presentation is that they're not sure that they can find a VGA computer projector. Since in the U.S. Sony is one of the leading suppliers of this equipment, I was very surprised — until I was told that VGA isn't a standard in Japan. There are no graphic standards in Japan: IBM, NEC, Fujitsu, and Hitachi each has its own approach to building PCs with proprietary graphic boards, keyboards, operating systems, etc.
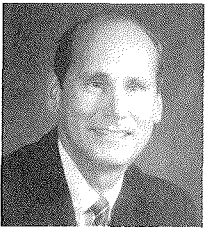
ジョージ・シューセル
ディジタル・コンサルティング　社長
データベース、ダウンサイジング、情報管理関連
の第一人者であり、世界中で情報システムに関す
るレクチャーを行っている。コンピュータ業界誌
「シューセルダウンサイジングジャーナル」誌の
編集長でもあり、全米工業エンジニア協会より年
間最高工業エンジニア賞を受賞している。

In Japan, the dominant PC supplier is NEC. I've heard various estimates indicating that NEC controls between 50% to 60% of the PC market. In Japan, IBM has combined forces with Toshiba through technology sharing agreements; both market compatible computers that share an underlying VGA screen, Intel-based chips, and disk encoding standards. I have heard estimates that these "IBM standard" PCs have captured between 20% to 30% of the marketshare. The remaining vendors carve up a small piece of the pie. And, speaking of pie, I have been told that Apple is sharply accelerating its Japanese business.

The market for personal computers in Japan has largely been a home market. This contrasts sharply with the U.S. where the popularity of PCs and Macintoshes in the office has driven the overall market. Furthermore, I was told that the principal Japanese manufacturers (including IBM) have developed the PC market as a different, separate segment from their commercial, mainframe-based computer systems. It is for this reason that PCs in Japanese offices are a relatively unusual phenomenon; only 2 million PCs have been sold to this technologically advanced country with a population of 150 million. Over the last decade, more than 50 million PCs have been sold to the 250 million U.S. residents. Another interesting fact is that roughly only 5% of the PCs sold in Japan are network capable, compared with 50% in the U.S.

All Japanese PCs (including IBM's) are significantly different from what is sold in the U.S. because of the need to support the Kanji character set. Japanese is an ideographic language with 6,800 characters. Keyboards are phonetic and this requires that an interpretation of the input phonetic character be computed and converted into an ideogram on the screen. Storing a reasonable number of Kanji ideograms requires far more than the 256 combinations that 8 bits provides and so Japanese language PCs are set up to process with double-wide words of 16 bits. All of this extra computation and interpretation is taxing on machines' performances.

Another important difference in Japan that could significantly hinder the spread of downsizing is that there appears to be no pressure for "open systems". In other words, the interchangeability and interoperability that we are demanding from our vendors just isn't a requirement in the Japanese market; companies are accustom to the proprietary methods of doing business and seem satisfied. How interesting!

Dateline: March 5, 1992, Tokyo

Well, I did my presentation without the use of a VGA screen projector. Compaq had a Proxima color LCD panel for overhead projectors which I used over a high intensity overhead projector. The result was not as good as a VGA video projector, but was better than using my backup — black and white foils.
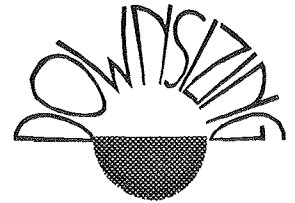
Land of the Rising...

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Since IBM only controls about 10% of the Japanese PC market and the other leading manufacturers, NEC, Fujitsu, and Hitachi have their own video standards, VGA is a pretty small market for projector manufacturers. This lack of standards for displays, keyboards, add-in boards, etc., is just one of the problems that defines (and hinders) the PC market in Japan.
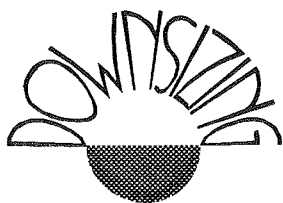
The night of my presentation, I attended a dinner with several key people involved in the Japanese "downsizing" movement. The group included the presidents of several leading Japanese companies such as ASCII, AXIO, Softbank, and Computer Age. In addition, a number of presidents from Japanese subsidiaries of U.S. companies were present including Compaq KK, Novell Japan, Lotus Development/Japan, and Microsoft/Japan. I found the roundtable discussion to be quite different from what a similar group in the U.S. would discuss. We spoke only in broad generalities about downsizing topics and cultural issues that need be addressed for downsizing to succeed in Japan.

I came away from the dinner discussion reminded of how different the Japanese culture and approach to business is from the American. Given these differences, it is a credit to Japanese businesses how well they have mastered different approaches in order to operate successfully in the U.S. and other western markets. My conclusion was that the Japanese interest in downsizing remains intense, but that except for certain specialized types of equipment — such as notebook computers — I don't expect Japanese vendors or users to take a leading role in downsizing.

...Only 5% of the PCs sold in Japan are network capable...

Teaching the Japanese English using PCs

One enormous advantage that Americans have is our language. English is rapidly becoming the international standard of communication. Because of America's leading role in the development of the computer industry, English has always been the standard language for documenting computer systems. Because of England's historical success in creating a world-wide empire, and the combined American/British international business acumen, English has always been a widely accepted business language. Now, however, with the accelerated movement toward an open common market in Europe, English, interestingly, has received an important push towards becoming the sole, defacto international language.

The Japanese want to learn English for many reasons. According to an article published in the *Wall Street Journal* this past January, "Learning English has become one of Japan's trendiest preoccupations, offering the allures of business success and fairy tale romance," a command of English is now seen as an essential tool for the Japanese businessman, tourist, and student. The Japanese student upon college graduation

has been through ten solid years of English studies. But, because their teachers focus intensely on reading and writing, many Japanese who travel overseas are crushed to discover how little conversational English they have mastered.

There are approximately 10 million Japanese paying an average of $2,500 per year to attend specialized English language conversation schools. Therefore, it seems that the use of computer technology to help improve the quality of English conversation skills for the Japanese would be a huge and very interesting business possibility. I met this morning with Pat Nee and Cary David of Spectra Media (Japan 011-81-3-5496-0460, New York 212-532-1044). They are two, ambitious M.I.T. alumni who are trying to break into this market.

Their business plan is to bring to the Japanese market an interactive multimedia computer system for English language instruction. The computers will combine the audio and video effects of a video tape with computer processing logic.

The Spectra Media management group is young, bright, ambitious and in search of venture capital. Call if you want more information.

Dateline: March 6, 1992, Tokyo
Meeting with DEC/Japan's Management

I spent today giving a downsizing seminar to 50 members of DEC/Japan's management team. Similar to my experiences with Compaq KK, I found the DEC staff to be highly personable and very interested in the topic of downsizing. With the NAS network integrating architecture, and close working relationships with Apple, Microsoft, Novell, and other leading PC players, DEC would appear to be ideally positioned to lead and support a charge into downsizing areas — something they have been unable to do in the U.S. The Japanese DEC management group believes that their product and service capabilities give them an important competitive advantage in the very tough Japanese market. DEC has sent organized tours of Japanese executives to attend DCI's DOWNSIZING EXPO in the U.S. as well as to visit American companies currently involved in downsizing.

Sayonara

My trip to Japan was very interesting in both business and cultural aspects. I now understand how very different Japanese culture is from the American.

The Japanese interest in downsizing is substantial. They want to understand our trends and be able to apply them as appropriate to their needs. Since over the past year many businessmen have traveled from Japan for DCI conferences, DCI has decided to "Japanify" our next DOWNSIZING EXPO being held August 24 - 27, 1992 in San Francisco. We will be running a Japanese help desk on the exhibit floor with translated versions of product information. In addition, we will be featuring a full slate of keynote presentations complete with Japanese translations. If you're interested in participating in any way, please call our program manager for this event, Ms. Debbi Silverman.

While I found the Japanese interest to be intense, their knowledge and understanding of both the technical and management issues involved in downsizing is minimal. If you're a consultant in this area, Japan is a great place to sell your services. **GS**
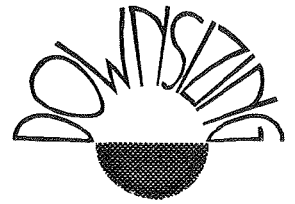
Periscope

Downsizing

What's Really Going On...

Ron Peri, President
Computer Support of North America

As the Editor of SDJ, I would like to introduce our new monthly columnist, Ron Peri, President and Founder of Computer Support of North America. Ron first came to my attention when he was the principal analyst quoted in downsizing's equivalent of Woodstock — the famous May 23, 1990, front-page article in the Wall Street Journal. His company (which is in the midst of a name change to Computer Support International), was founded with the goal of offering mainframe caliber consulting for both systems implementation and support for the expanding group of companies who want to take advantage of downsizing.

Ron is a constant presence at DCI's downsizing conferences. He and I travel together around the world; we've been to France, Spain, Canada, and many locations throughout the U.S. His sessions, which focus on practical downsizing guidelines with an emphasis on networking implementation and support, are always packed and very highly rated. The purpose of Ron's column, Periscope, will be to provide an overall theoretical construct as well as practical advice on how to approach and get involved with downsizing. There is no one I know who is better qualified to write this column than Ron.

In this first column, Ron shares with us an overall perspective on how to think about the process of downsizing. Beginning in the May issue, Ron will commence a series concerning six various methods of downsizing — which ones to use, and which to avoid.

Popular wisdom holds that there are three reasons to downsize: cost, cost, and cost. There is no question that the real cost savings is attractive to most companies and gets them to consider downsizing. However, the savings is also the reason why many critics have dismissed downsizing as a temporary phenomenon soon to be replaced by the next price/performance gimmick.

When Consolidated International Insurance replaced its IBM 3090 with a LAN and started saving $2.5 million per year, it was front page news. It is true: such big savings command our attention. Reducing expenses, however, *is not* the fundamental driving force behind the downsizing movement. Rather, there are major currents of change in the basic mechanisms of business that are forcing changes in *all* business support systems.

Changes in technology

Remember how in the 1970s memory upgrades were delivered by truck? Those were the days when DP professionals thought that technology could solve any and all problems. While not the solution to all of the world's problems, advancing technology certainly has wrought massive change everywhere. In the 1960s, the biggest disk drive you could

purchase from IBM had 2.3 MB of storage. That is the modern day equivalent of two 3.5" floppies. And, the old drives were slower, to boot.
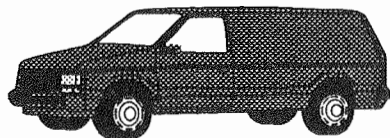
In fact, the revolution that is occurring should be placed into historical context. Consider the impact of technology on transportation. Trains once provided the major means of transportation across the United States. The Pennsylvania Railroad could afford to ignore the rickety and unreliable cars and trucks that bounced over unpaved roads. But by adding technology in the form of more powerful and dependable automobiles and networked, paved highways, the entire transportation situation was radically altered. In modern times, personal transportation (cars, bikes, etc.) has substantially displaced mass transportation. Likewise, networks of personal computers are now progressively replacing centralized computers.

PCs are changing our society and, in turn, the way we live. Who could imagine suburban living without the car? In the same manner, can you conceive of multimedia, voice response, holographic displays, interactive digital, etc. without PCs? Yet in spite of the tremendous power that PCs will wield in our future, many IS departments relegate them to the status of dumb termi-

nals. Running PCs in terminal emulation mode is like buying a Ferrari and then having it towed to Florida by a Greyhound bus ("Leave the driving to us!") Emulation users will discover eventually that their 386s and 486s are more powerful than the 4381 or 3090 lurking in their glass houses. Hey guys, most programs still run on the 486 in XT emulation mode!

Computer literacy

Computer literacy is an 1980's type of phrase — very passé. Consider the nature and expectations of the coming cadre of workers entering the labor force who all have been using computers since the age of five. College students now need to be totally proficient in word processing, spreadsheets, CAD, and Nintendo. No cyberphobia here! (This raises a question: Will a child raised on Nintendo graphics be able, as an adult, to tolerate a monochrome 3270 displaying COBOL?)

When Luther taught the German children to read, they grew into adults that demanded books. Teach the children to use computers, and they will want both access and control of their own data. End-users will no longer tolerate a paternalistic IS department which carefully (and centrally) dispenses information and reports. And of course, Lotus has forever destroyed the users ability to wait six weeks for a new report.

Host-based, mainframe technology is closely tied to the management styles of the 1970s and 1980s. The older DP/IS departments helped to shape those styles. But today's distributed management techniques require distributed information. You see, the focus of computing is changing. In the past, those in the mainframe world could dictate which programs would be run. Jobs were centrally launched, run, and output. Now it is the user who launches, runs, and prints their jobs. The downsized environment, with a mainframe on every desk, is inexorably driven by the user's need for processed information at his/her beck and call.

Empowerment

Empowerment — what a great 1990's word! This word carries weight in the management vocabulary. It defines the need to move the decision-making power down to the person closest to the action. Empowerment is tied into the greater concept of the "enterprise web": teams of individuals and groups that cross corporate lines and work together to build a product, complete a project, etc.

Periscope...

(continued from previous page)

The old hierarchical management-style organizational \chart that forced decision making up one chain and then down the other, is now being replaced by interconnected groups with mutually vested interests. This trend is being fostered (to no small degree) by the recession, which has had the effect of eliminating a large percentage of middle management. This new style has also been pushed along by the general desire to *flatten* the organizational chart.

Add these management trends together and you'll find an overwhelming need to get information synthesized and delivered to the user as rapidly as possible.

I have heard PC LANs referred to as "distributed processing systems" — bad term. It brings to mind connotations of slow, cumbersome systems that are long on promise but short on performance. What we're really talking about are distributed information systems: information from and for the masses. *Computer democracy!* A user department head at one of Computer Support's clients actually With the combined efforts of CBS, Computer Support, and several other vendors, the job was completed within ten days! A

traditional mainframe approach couldn't have been signed off/on in the same time frame.

There is a revolution going on!

Technology, computer literacy, empowerment, and accelerating change — downsizing is a result of our changing world more than it is a cause. Those who resist are not fighting a little wave disturbing their pond, but are, instead, trying to hold back an ocean.

On the eve of another

...What we're really talking about are distributed information systems: information from and for the masses....

revolution, Dickens wrote, "They were the best of times, they were the worst of times." Recently, one wag quipped, "Whether these are the best of times or the worst of times really doesn't matter. These are the only times we've recently stated, "Finally, I have control of my own data!"

Accelerating change

Now here is a frightening concept. Isn't everything changing too fast already?

Tom Peters, in his book *Thriving on Chaos*, posits that

to be successful in the 1990s, we must learn to love change. So which is easier to change, a mainframe or a LAN? In fact, change is so easily accommodated in LAN environments that it sometimes takes an exhibit of self control to stop evolving the system. In contrast, projects involving mainframe upgrades are scheduled based on the lead time of products, and there is always plenty of time to plan for patches, etc. With LANs, lead time is measured in days instead of weeks.

On the eve of Desert Storm, CBS News required a new network to tie together 200 PCs on token ring and ethernet to a couple SUN servers via TCP/IP. The SUNs stored 15 years of news stories needed for research. It was also necessary that the reporters in Saudi Arabia be able to dial into the network from their laptops, access the archives, and submit stories. got!" *RP*

Ron Peri is the President and Founder of Computer Support of North America, an industry leading firm providing downsizing services from initial consultations through software conversion, hardware installation, and outsourced support. Mr. Peri can be reached at Computer Support of North America, Basking Ridge, NJ, (908) 766-9200.

Notes and Quotes from DOWNSIZING EXPO

March 10-12, 1992 Chicago

Richard Finkelstein of Performance Computing, Inc., spoke in-depth about the basic steps involved in designing and implementing a new architecture once the decision to downsize has been made. Some of his recommendations included the importance of using:

* standardized hardware — choose a vendor that offers a full line of quality products and purchase 386 or 486 machines with as much memory as can be afforded

* operating systems that are limited in heterogeneity; similar operating systems for both the client and the server obtained, if possible, from a single source

* a database server that comes highly recommended from user references rather than one that just scores well on TPC benchmark numbers or magazine articles

* client tools that provide user transparency, product inte-

gration, maturity, and portability.

Amy Wohl, Founder of Wohl Associates, spoke to conference attendees on the many benefits of using client/server-based office systems instead of traditional, host-based systems. One of the more apparent benefits are the cost saving PCs can provide. According to Wohl's statistics, the hardware, processing, and storage of PCs/servers costs 1/10 to 1/2 of the cost of mini-computers and mainframes.
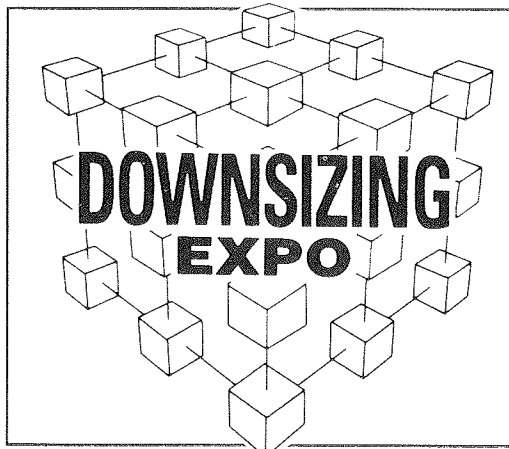
Also significantly cheaper is the software that is used by LAN systems — cheaper because it is usually a customized, shrink-wrapped application, not written from scratch for each company. *(Editor's note: By the end of 1992, there will be over 1000 widely distributed windows applications available.)* Client/server-based office systems save money by allowing companies to choose applications off the shelf, and also allow users to choose from the best software available in

the marketplace. Further cost-savings are found in the training and retraining of personnel, especially when the new client/server or LAN architecture employs a GUI as the end-user interface.

Cheryl Currid, President of the consulting firm, Currid & Company, discussed one of her areas of expertise: preparing the firm for downsizing. Currid gave tips on how to assess your company's readiness for downsizing. Some items from her checklist included:

* Survey your firm's current desktop connectivity. Are at least 30%-35% of PCs connected to LANs?

* Are end-users currently using the appropriate tools for appropriate jobs (not editing text from their spreadsheets)? Have the company's PCs been reduced to "two function machines" — spreadsheets and word processing, or are the users capable of running graphics, database, and project management applications?

* How well is your IS staff functioning? Are they a stable unit? Does your IS staff have the training and tools necessary to do the job and provide support for new utilities, GUIs, and client/server DBMSs?

* Will your staff (end-users) be able to adapt to the changes?

similar to Ashton-Tate and Pansophic, were either absorbed into larger companies, or just disappeared. Many small firms have had trouble maintaining venture capital.

The fact that our business has turned up so drastically over the past two months is a harbinger of good news for other computer-based businesses around the country. In other words, if industry-wide sales continue on the same trajectory that they have for the past two months, 1992 will be a good year to be in the computer business.

Client/Server Users

Last month at DOWNSIZING EXPO in Chicago, I had the opportunity to speak with a number of vendors now shipping client/server-based application solutions. Some companies including MAI (714-730-2684), Flexiware (203-491-2305), and Peoplesoft (510-295-9476) are currently shipping finished products. Other important companies such as D&B Software (404-239-2000) and The Dodge Group (617-487-0022) are within weeks of shipping their first releases. You no longer have to be a C guru to take advantage of networking and powerful micro-based solutions — you can buy shrink-wrapped applications and implement them quickly. *GS*

UPCOMING downsizing Events...

The most comprehensive software program in Canada, **SOFTWARE WORLD**, Toronto, April 14-16, 1992, is comprised of five conferences: The Software Development and CASE Conference, The Database and Client/Server Computing Conference, The Windows Applications Conference, The Future Technologies Conference, and The Application Software Conference. With over 60 sessions, **SOFTWARE WORLD** will have the information necessary for anyone interested in downsizing: enterprise modeling, distributed multi-server DBMSs, new generation application development tools, and SAA OS/2 applications.

This April, DCI is offering several downsizing seminars that each contain specific information on the various aspects of downsizing. **Finkelstein's Practical Guide to Client/Server DBMS Computing**, Chicago, April 27-28, 1992, will focus on topology requirements as well as proven approaches that will help you to implement a stable client/server environment. Chaired by Jeff Tash, **Windows Client/Server Workshop: Test Driving the Tools**, Boston, April 28-30, 1992, offers "head-to-head" comparisons of various software approaches with a focus on the new generation of Windows-based 4GLs. One of DCI's most popular offerings, **Implementing Client/Server Applications and Distributing Data**, chaired by Herbert Edelstein in San Francisco, April 29-30, 1992, gives you the design guidelines necessary to prepare for downsizing. At **Cheryl Currid: Managing Downsizing**, San Francisco, April 27-28, 1992, Currid focuses on the management and personnel issues involved in downsizing your corporate system.

For more information on any of these classes, call DCI at (508) 470-3880.

For your enjoyment and ease of reference, like a chameleon, **SDJ** will be changing its colors monthly. Our changing color scheme will make it easier to spot each new issue at a glance, and quicker to reference past issues.