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MAXIMIZING RESOURCES AND INTEGRATING OFF-THE-SHELF PC PROGRAMS
By Mala Sistla and Jim Todd

Today’s business climate requires companies that seek and invest in the acquisition of “knowledge” to maximize their use of computer resources; this includes the use of personal computers as well as that of third-party online database services, such as Dialog, Lexis/Nexis, Legislate, etc. Since the maintenance of massive in-house databases has proven expensive (and not very high on management’s agenda), the market researcher has come to depend upon the use of these online services which provide the user with access to an impressive spectrum of information. The problem with such services, however, is their refusal to offer this data in formats that are compatible with popular PC data base or spreadsheet programs (such as Dbase IV or Lotus 123).

Presently, the format and structure of output from online database services do not provide the user with the flexibility to easily integrate this data with the user’s PC applications, which are needed to provide management with proprietary data analysis and specialized reports output. At best, the online vendors offer fixed reporting formats that may be only screen-captured as ASCII (text-only) files, resulting in limited usefulness to the market researcher. To be of further use, the user is required to manually transpose the online service’s output into a form that is compatible with PC-based business applications (vis. database or spreadsheet formats).

As personal computers and software business applications become more powerful, users will become more insistent with major vendors of online services, demanding that information be offered in more PC-compatible forms, rather than the traditional “capture as ASCII” format. This would require such online services to provide online file transfer of binary files, containing information in the correct PC-based format, such as ASCII delimited data.

The operation of information acquisition and processing would be value-added if vendors offered data in common forms (such as the ASCII delimited format, which is compatible with most PC databases and spreadsheet programs). The information, when released in ASCII delimited form, can be directly fed to in-house databases without the hassle of duplicate data entry. This, alone, will minimize keyboard entry errors and safeguard “clean” data capture (assuming good quality modem operation).

Most users require current information with less emphasis on historical background data. Information packaged in the CD-ROM medium, which is often quite large and comprehensive, is not
always desirable, since the volatility of current business conditions require today's late-breaking news, and less emphasis on yesterday's stories.

The current economic trend, fueled by the recession, has resulted in downsizing, and restructuring of government and industry, alike. Drop in budgets have translated to limited spending in the areas of "overhead" budget categories, such as research support and information services.

Regardless of reduced budgets, major programs will still require research support and information acquisition. As industry consolidates their resources and trims budgets, research support activities will be forced to select only those online services that directly support specific projects.

Recently, there has been a dramatic decline in the budgets that purchase online database services. Faced with this prospect, it is not prudent for companies to maintain large, cumbersome databases or expect management to support such ideas. Large companies, such as Kodak and IBM, have subsequently formed an outsourcing agreement to fill their information requirements.

Information centers have used outsourcing as a modus operandi very effectively. The concept, however, of integrating the resources and expertise has not yet occurred. One cannot fulfill tomorrow's demands by using yesterday's data. The demand for PC-based information will grow in the future as companies continue to scrutinize their budgets.

**Emphasis on PC-based programs:** The sophistication of today's personal computer is generating new possibilities for the average user. It has evolved into a formidable tool that is certainly capable of processing and analyzing massive quantities of material. In the information age, customers expect the product to contain intellectual analysis besides data gathering. This analysis provides the user with the needed knowledge to make decisions. There are remote access communications packages available that require minimal programming capability, easy to perform complex functions, integrate different software to churn out value-added information and develop final products such as charts, reports, and slide presentations with minimum effort. What the user requires is a way to tap the large online services for pertinent information, to capture it in a form that is readily compatible with PC database and spreadsheet applications. As users get sophisticated, software programs and their applications will evolve to provide improved solutions to existing problems.

**Automatic transfer of data:** To overcome the perils of maintaining large internal databases, one should plan to orchestrate the use of computer hardware and software in such a manner as to maximize the acquisition of knowledge through online services.

Imagine if you will, a personal computer that is capable of remotely accessing any online service or even another PC anywhere in the world, at anytime, and being able to automatically transfer information directly into your own customized database without ever lifting a finger or making any modifications. The components of such an information system are readily available to the average consumer.
Well the day has arrived and there is a remote access software program that is inexpensive and effectively provides communication links with other packages, such as Relay Gold, Xtalk, etc. Research on the product lead to numerous articles published in the computer industry publications. It has a multitude of uses and applications, however, the impact of the program lies in its data transfer capabilities.

With such components available at the local computer store, an effective personal computer communications system can be quickly assembled. The trick to making an effective communications system is (1) choosing the right components and (2) applying them in a coordinated manner. Following are some points to consider, when building your own communications system:

Guidelines

Step 1. Know your job. The computer is no substitute for personal competence.

Step 2. Know what you want and how to get it. Research candidate online database services to determine which ones, if any, can supply you with the research data that you and your company need.

Step 3. Work with your online service's account executive. The account executive has a vested interest in your satisfaction of the online service. List, in detail, what data you require on a routine basis. The account executive can detail a step-by-step plan to walk you through the online service to obtain exactly what you want.

Step 4. Assemble the hardware.

1. 386SX/DX CPU. (20 Mhz or better)
2. Hard drive with at least 20MB of unused storage capacity.
3. 2MB RAM minimum, preferably 4MB RAM.
4. 2400/9600 BD modem with MNP-5/V.42 compression.
5. WORM drive or erasable optical disk system.
6. Laser printer (8 pages/min.).

Step 5. Assemble the Software. The following is a list of software programs needed to drive your communications operations:

1. Communications program. To perform any PC-based activity, i.e., to receive data, conduct real time data transfer, one is not restricted to geographic location or an office. Information can be viewed by both parties simultaneously and changes made instantly to the text, figures and the like. The information then can be transferred in the format desired to appropriate programs to produce charts, graphs using Harvard Graphics, or loaded into a relational database such as RBASE to conduct English language-based queries.

The above functions can be accomplished without leaving the remote access package and scurrying all over the hard drive. All of the PC gateway programs can be loaded onto this remote access software and a menu-driven system created to go to individual programs.
All of this can be done easily and it is the next best thing to reaching out and touching somebody. Paths can be created from the menu to run each software program separately, keeping intact all the special features designed. This avoids setting up the parameters for each system separately on Xtalk or Smartcom or any other system currently in use. For example, linking to Dialog's file 588 (Contracts database) can be established via Carbon Copy menu. The search can be downloaded in ASCII delimited form directly into Lotus for calculations and graphs, which in turn can be uploaded into Harvard Graphics to compose and generate graphs using the original data. The transfer of raw data into an in-house database and producing the product can done without ever leaving this remote access package. The charts and graphs can be remotely transferred to other locations or printed on laser printer and overhead slides prepared.

2. Text indexing and Retrieval program. A good text retrieval program, such as ZYIndex or Folio, will give you the freedom to search vast pages of text in seconds.

3. Front-end (menu) program. It's not enough to have a good communications program. Need a convenient method to move from online service and even perform a certain task (script).

4. Create Scripts. A script is a series of predefined instructions that perform required tasks once the operator is linked to the online service. Automate ID number and password and leave you at the main menu of the online service.

5. Word processor. A good word processor will be invaluable to you.

6. Keystroke (macro) Recorder program. Specialized tasks, which are performed on a routine basis, can be recorded into special files called "keyboard macros." These keyboard macros can be executed from your menu system by depressing a single key.

**Capabilities and Benefits**

- No need for large database systems and maintenance staff.
- With better and faster computers and large capacities for data storage and virtual disk space, PC based programs are becoming easier and easier to load and run.
- No front-end costs.
- Ease of use to create in-house databases.
- Minimal human intervention needed.
- Databases can be updated regularly with little effort and time.
- Compatible with software packages and PCs currently available in the market.
- Will increase database usage as it becomes available in ASCII delimited format.
- Team with people with different backgrounds and expertise.
- Empower people to make changes for the common goal—"Productivity."
- Enhance the quality of the product.
- Provide value added information.
- Work smarter with less and less.

**Concerns**

- Safety of the data and the system. System integrity is of paramount concern to both the company and the market researcher. Anytime we link to the outside world, we must be vigilant to use all sensible security practices.
Synergy of an Interoperable System

Configuring Your PC

Menu-Controled Actions

- Other Programs
- Spreadsheet
- Relational Data Base
- Text Retrieval
  - Store massive text files on hard drive or WORM for information searches using boolean operators
- Wordprocessor
  - Use to view, print, or edit text files downloaded from remote sources

Interoperable Actions

Modem Operations
- Connect to...
  - Online Services
  - Other Company PCs

Actions
- Run scripts
- Capture text
- Transfer files
- Remote viewing
- Remote control
- Remote Troubleshooting

Predefined Keyboard Macros
- Macros perform predefined tasks that perform complex operations, often involving more than one program.
Here are a few guidelines:

1. Keep your workstation in an area that can be secured when you're not there.
2. Know who has access to your communications PCs.
3. Use a front-end menu system that can be password protected.
4. Encrypt files and programs that may be proprietary.
5. Make important files "read-only" when not being modified.
6. Scan newly transferred files for virus infections.
7. Use a communications program that can transmit and receive data that has been encrypted.
8. Never leave your communications workstation with the modem in auto-answer mode, unless special circumstances warrant such actions.

- We are sure publishers will come to a satisfactory compromise regarding the copyright issues.
- Pricing of the data.

These are but a few of the major issues of concern. The problems, already prevalent in the publishing world, are undergoing revolution in electronic transmission of material. We hope that these issues will not become stumbling blocks in providing valuable data to the customers.

Conclusions:

Data that cannot be transformed into knowledge is useless. In the age of the "Information Explosion," having too much data is just as ineffectual as not having enough information. Customers need data from company sources as well as third-party online services to construct their own products, reports—and determine their own conclusion.

PCs, used as communication workstations, should be configured with a capable front-end menu that would allow users to (1) connect to online services and other remote PCs, (2) download both captured ASCII data (text files) or binary files in formats that are compatible with most commonly-used PC business software packages. Additionally, scripts (that automate repetitive searches or file transfers) should be utilized whenever practical. These scripts can be initiated from the PC menu to automatically execute a set of complex instructions.

If online service vendors truly desire to better service their customers' needs, then they should release data in the most useful format to the user.

Integrating software is only the tip of the iceberg; what a well-planned PC communication system can produce is left up to your particular needs and creativity.

"You are only limited by your imagination"

Dan Haughton (Lockheed)

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Jim Todd is currently the manager of strategic computing operations for the Lockheed Aeronautical Systems Company, Washington, DC. He has experience integrating PC-based applications to enhance computer-aided tracking tools.

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