SOCRATES

As the complexities and demands of modern business have multiplied in recent times, so too has the size and sophistication of the computer industry. Larger and faster hardware, time sharing equipment, overlapping I/O processing and advanced programming techniques are just a few of the answers provided in response to these expanding needs. These efforts, while responding to and sometimes solving business problems, forced the data processing community into an endless training cycle to attain new skills required by each system. Gradually, the demands of computer installations changed from ". . . give us more sophisticated products to solve our more complicated problems" to ". . . give us tools to make computers more understandable and easy to use, so that we don't have to tie up our limited resources in specialized training."

One of Cincom's responses to this call for help is the TOTAL data base management system. The TOTAL concept offers users of most commercial computing systems a flexible and understandable data management operation that can be programmed and operated by people after only a short period of training.

As the TOTAL data base management system became more widely accepted, another opportunity to enhance its utilization surfaced. Since a large part of any application system is represented by the reports that are produced . . . why not provide a capability which would allow the users to directly access their TOTAL data base and sequential files to evaluate, select, retrieve, and print the desired data in a report formatted to meet the user's specifications. After all, as far as many users are concerned, the reports are the system and simply supply answers to questions in order to make decisions. This is why Cincom named its information retrieval system, SOCRATES. For it was SOCRATES, the famous Greek philosopher and teacher, who believed that the best method for acquiring knowledge was to ask well planned questions.

Cincom's SOCRATES is a comprehensive and powerful system which gives you the ability to evaluate, select, retrieve, and print data from any TOTAL data base and/or sequential file. SOCRATES maximizes the efficiency and speed with which data is retrieved by minimizing the number of TOTAL reads. SOCRATES is also easy to use, such that even non-technical personnel may be trained to use its capabilities.

SOCRATES can bring the same leverage to the extraction and presentation of information that TOTAL has brought to the establishment and maintenance of your data base. As SOCRATES would have recommended, let us answer a few questions to give you more information for your decision . . .

Why would you want SOCRATES?

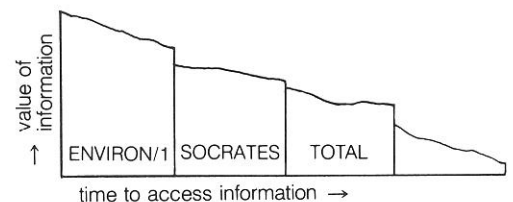TURNAROUND

FAMILIAR

EFFICIENT

TIMELY

SOCRATES improves the *turnaround* of your entire report generating cycle.

From the programmer's standpoint, SOCRATES uses *familiar* English-like code with no special coding forms, making it easier to learn and use. Familiarity also allows your programmers to become more productive, as even special or "ad hoc" reports can be quickly and easily coded.

From the processing standpoint, SOCRATES is *efficient* because it was designed by Cincom and is integrated with TOTAL, not merely "interfaced." This integration enables SOCRATES to capitalize on our unique knowledge of TOTAL's internals. Further, disk I/O's are minimized through double buffering.

Finally, from the user's standpoint, the benefit of SOCRATES' familiarity and efficiency culminate to provide more *timely* and valuable reports for decisions.

"The value of information increases as the time to obtain it decreases . . ."

value of information ↑ | ENVIRON/1 | SOCRATES | TOTAL

time to access information →

SOCRATES' ability to improve turnaround not only aids your data processing department, but also benefits your entire organization.
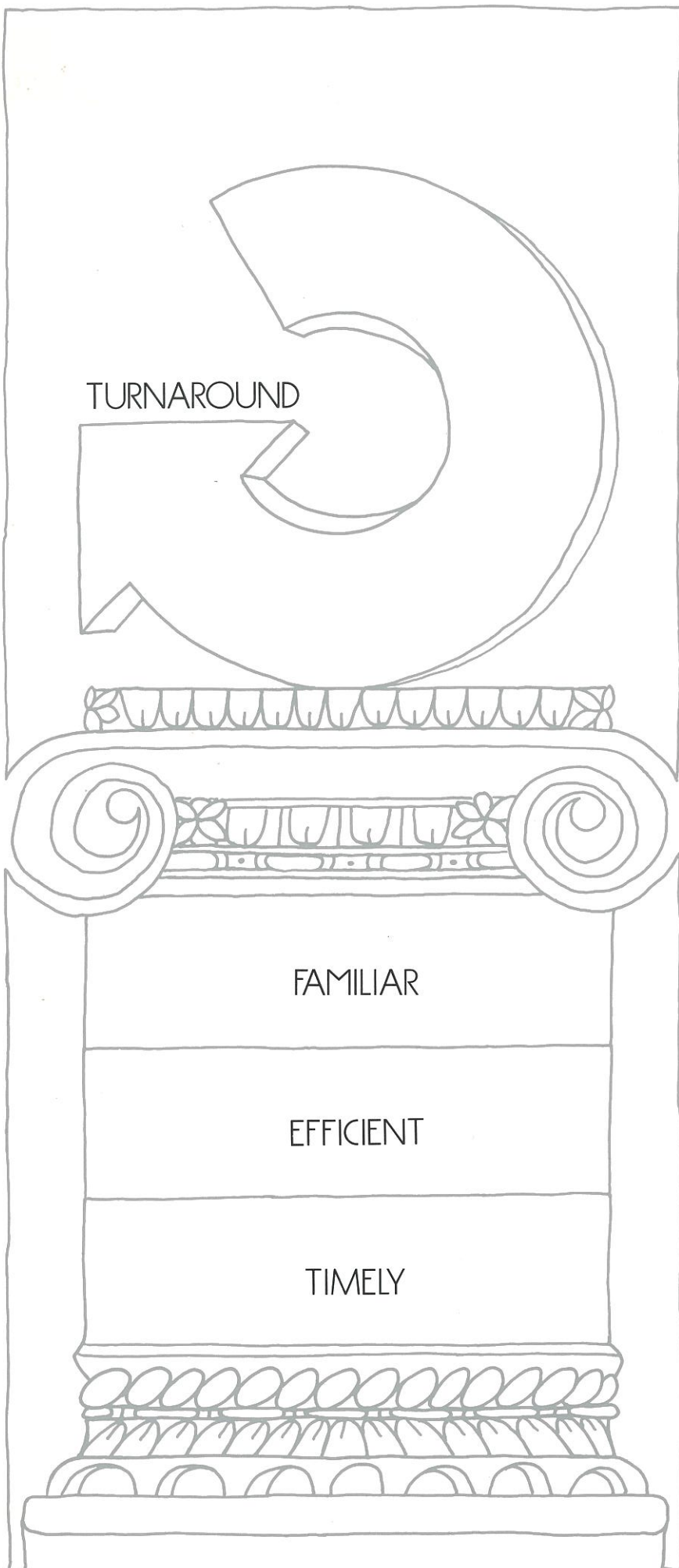
How does SOCRATES work?

SOCRATES breaks its information retrieval process into four distinct phases. The first phase, Run Objectives, is an identification phase and is followed by three operational phases: 1) the Extract phase, 2) the Sort phase, and 3) the Print phase.
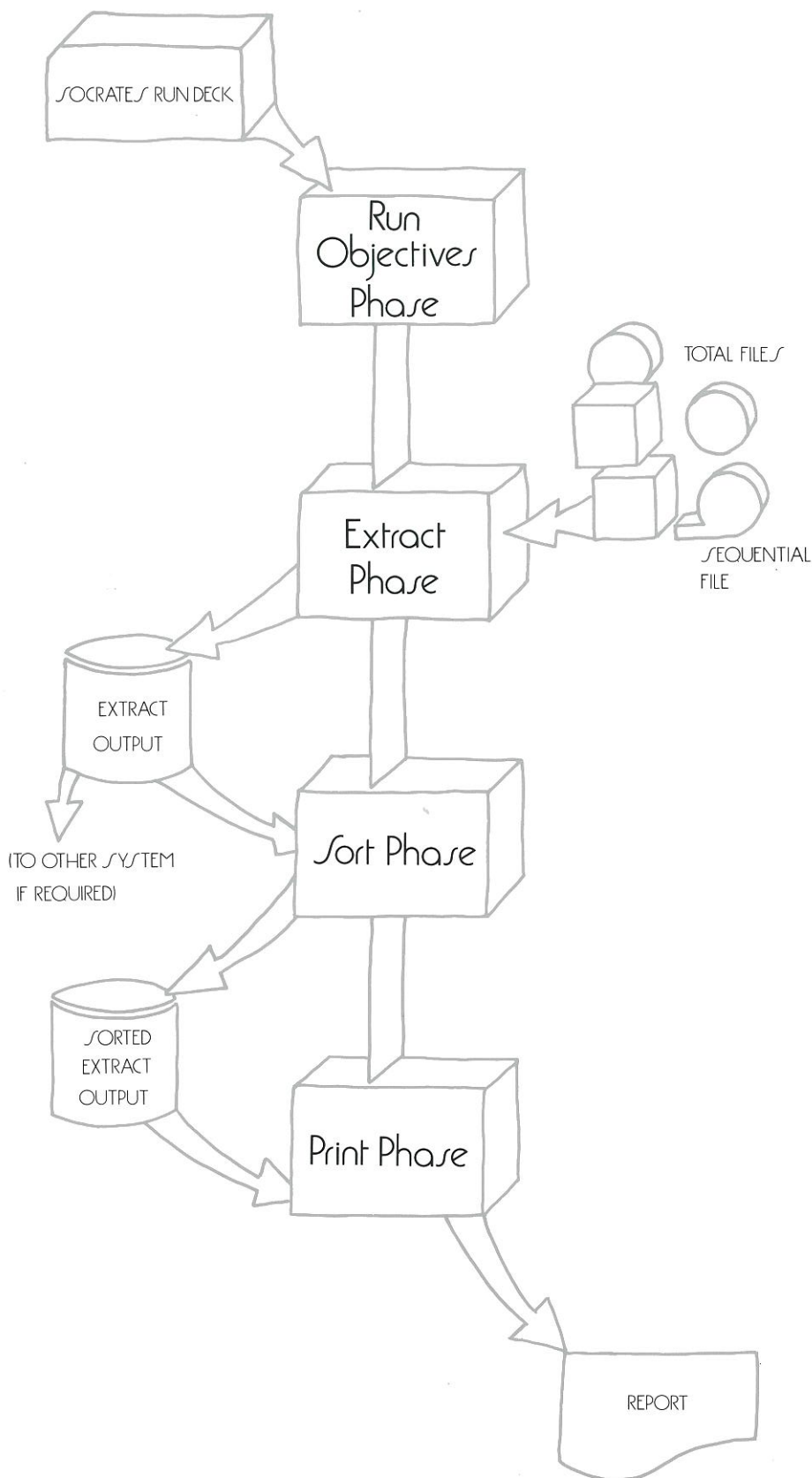
The Run Objectives Phase is used by SOCRATES to analyze parameters which identify the objectives of the run and to identify the TOTAL data base from which the data is to be extracted.

The Extract Phase is the principle phase of SOCRATES, and functions to select data from a TOTAL data base and/or sequential file. Data is retrieved to meet specific evaluation and selection criteria. The retrieved data is used to create output records, thus eliminating the reporting of unnecessary data.

The Sort Phase functions to sequence the extracted data in accordance with user specified requirements. SOCRATES uses the vendor supplied sort program alleviating the need to code excess sorting routines. Output from the Sort Phase then goes to the Print Phase.

The Print Phase prints the desired information in the report format specified in the SOCRATES program. The Print Phase, like the Extract Phase, allows evaluation and selection criteria to "sift" the data before printing. At the end of each report, a valuable summary of the run is generated supplying statistical data and possible warning messages that were encountered.

SOCRATES can produce as many different reports as desired in one run.

CLAS

CLASLKWH

WHST

(Job Classification File)

(Work History File)

- Identifies the 'PERSON' data base

- Identifies the specific files to be used, and the linkage paths that relate them.
- Lists the specific data items to be extracted along with the selection criteria.

- Identifies the keys on which the data in the report will be sorted.

- Defines the desired layout of the report.

- Provides evaluation and selection criteria (PRINT-LOGIC) for analysis of data before printing.

```
RUN-OBJECTIVES
1HDR PERSON     ,EXAMPLE
*
EXTRACT-OPTIONS
BASE-FILE=CLAS
ACCESS WHST USING CLASLKWH
ACCESS EMPL USING WHST-EMPL
EXTRACT-OUTPUT=R1FOR1
EMPL-LAST-NAME, EMPL-FIRST-NAME, CLASN-TITLE
WHST-RATE-OF-PAY, CLASN-MAX-RATE, CLASN-MIN-RATE
EXTRACT-LOGIC=R1FOR1
(IF (WHST-JOB-DURATION = 0 AND
WHST-RATE-OF-PAY > 500) THEN WRITE)
BYPASS
*
SORT-REQUIREMENTS
SORT R1FOR1 CLASN-TITLE, EMPL-LAST-NAME
*
PRINT-OPTIONS
REPORT=R1
PRINT-LABELS
INDICATOR                          $$$$      003C
HEADINGS
HED1 1C  'EMPLOYEE SALARIES BY JOB CLASSIFICATIO
HED2 2 037'CLASSIFICATION       EMPLOYEE NAME
HED2   095'INDICATOR'
FORMAT=FOR1
037 CLASN-TITLE, FO, AS=2
058 EMPL-LAST-NAME
FL1 EMPL-FIRST-NAME
080 WHST-RATE-OF-PAY, F(10)
098 INDICATOR, CL
PRINT-LOGIC=FOR1
(IF WHST-RATE-OF-PAY = CLASN-MAX-RATE THEN
MOVE 'MAX' TO INDICATOR)
(IF WHST-RATE-OF-PAY = CLASN-MIN-RATE THEN
MOVE 'MIN' TO INDICATOR)
WRITE
```

SE

EMPLKWH

EMPL

(Employee ID File)

What does a SOCRATES program look like?

Illustrated here is an example of a SOCRATES program written to satisfy the following requirements:

1) List all the employees in the company by their current job classification, with the exception of those employees with salaries under $500.00 per month.

2) Identify any employee whose current salary is at the minimum rate for their job classification.

3) Identify any employee whose current salary is at the maximum rate for their job classification.

4) Format the report with a title and column headings so that it is easy to understand.

As with any unfamiliar product, SOCRATES at first glance may appear difficult to comprehend. However, this program, like all SOCRATES programs, simply consists of the four phases discussed on the previous page.

The specification of logic, including Boolean, is in a familiar high-level type of language. Full arithmetic operations, moves, etc. are also provided.

The basic design of the SOCRATES language was structured with primary emphasis on the simplicity of use, so that with a minimal amount of practice, your application programmers will be able to draw on the full potential of the SOCRATES system.

What does a SOCRATES report look like?

Shown here is the report generated by the program just described.

With SOCRATES, however, *you* decide what the report looks like, not the system. A SOCRATES report can be formatted to meet any user's requirements.

Generally, changes to the format and/or content of the SOCRATES report can be made with much greater ease than a standard COBOL report program.

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              EMPLOYEE SALARIES BY JOB CLASSIFICATION

CLASSIFICATION        EMPLOYEE NAME        SALARY        INDICATOR

ACCOUNTING MGR        ERICKSON ARNOLD      $1,200.00

ACCT PAY CLERK        FRYE VICTORIA        $550.00

ADMIN CLERK           JONES ADAM           $600.00
                      KRUPICKA JEROME      $525.00
                      OLIVER KAREN         $700.00

APPL PROGRAMMER       WADE HERMAN          $725.00        MIN

DATA PROCS MGR        HUFF PATRICK         $1,500.00

DIST 1 SALES          PROCHNOW STEVEN      $825.00
                      TAYLOR JUDY          $850.00

DIST 2 SALES          DAVIS JOHN           $800.00        MIN
                      LOAR DENNIS          $850.00
                      REID FLORENCE        $900.00

DIST 3 SALES          FISHER GEORGE        $1,000.00
                      SHEPARD SALLY        $800.00        MIN

DIST 1 MGR            LANGDON DONALD       $1,800.00

LAWYER                BOWER CURTIS         $1,600.00      MIN
                      CLARK JUANITA        $1,600.00      MIN

MARKETING DIR.        BARNISH THOMAS       $3,200.00

MARKETING SEC.        ALEXANDER DOROTHY    $1,000.00

PRESIDENT             BACHMAN EDWIN        $3,000.00      MIN

PURCHASING MGR        POOLE ANNA           $950.00        MIN

SECRETARY,PRES        AVERY THERESA        $1,100.00
                      BACHMAN SALLY        $700.00        MIN

SYS PROGRAMMER        SPENCE DAVID         $750.00        MIN
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SOCRATES review

SOCRATES, the information retrieval system, is one component of the growing, compatible range of Cincom software tools. This means that SOCRATES will preserve and guarantee your investment in system development.

Your programmers receive complete documentation, training, and personalized help in learning to use SOCRATES.

TECHNICAL DATA:

Hardware:
IBM 360/370

Operating System:
DOS, DOS/VS, OS-MFT, OS-MVT, OS-VSI, OS-VSII

Storage Device Type:
2311, 2314, 3330, 3340, 3350

Core requirements:

SOCRATES	25K
Tables	2K
Buffers	4K
I/O Modules	4K
	35K

plus

Sequential File Support
TOTAL (read only)
TOTAL DBMOD

If you have any further questions, contact your local Cincom Marketing Representative and, like SOCRATES . . . simply ask. We'll be happy to supply you with the answers you need.
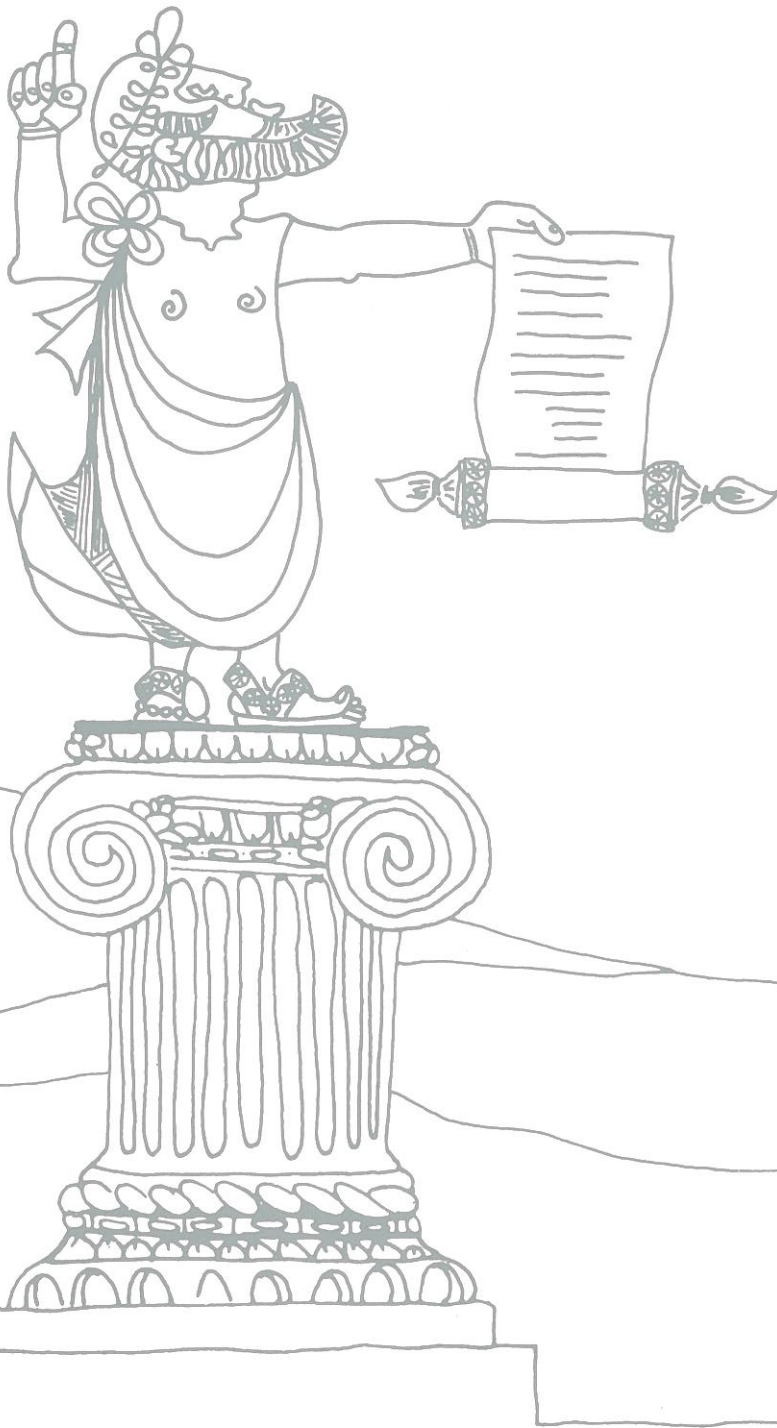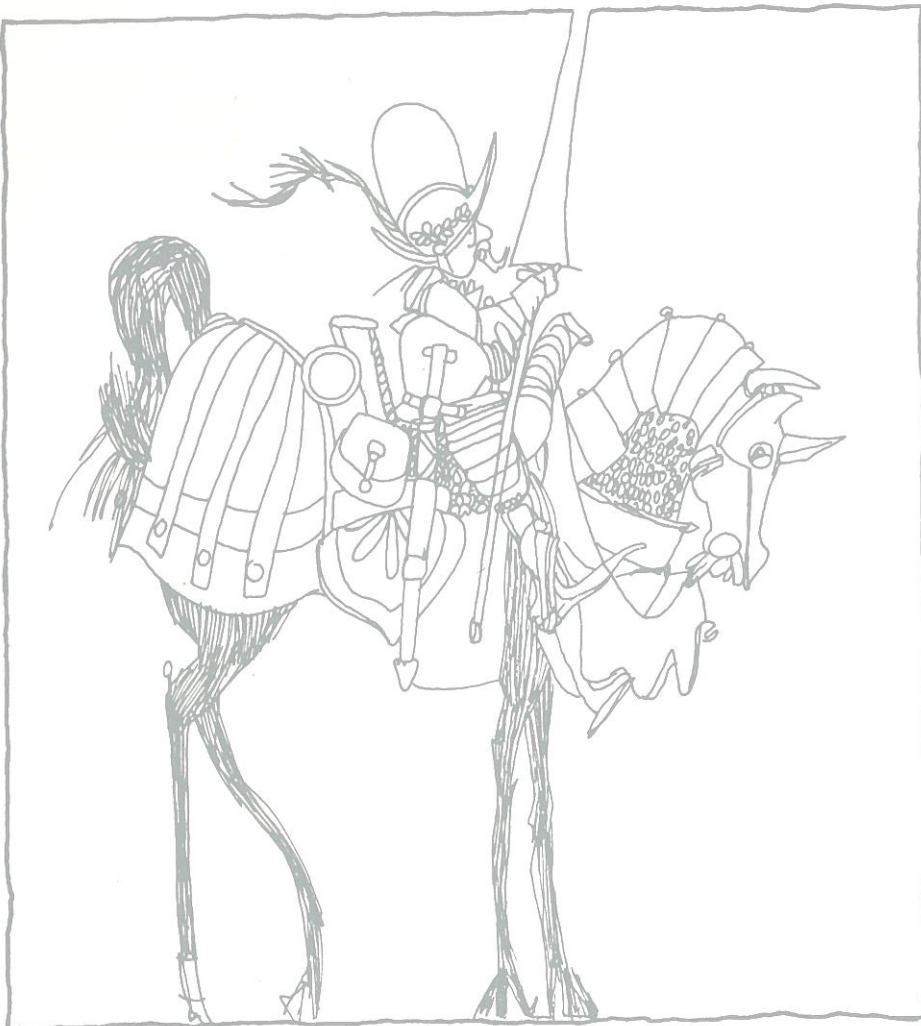
Other members in the Cincom family of Products

Total

Don Quixote . . . the "impossible dreamer" is Cincom's symbolic figure for the TOTAL data base management system. He was chosen because our clients have been so successful in realizing their previously impossible dreams of successful information systems.

TOTAL is the most widely used data base management system in the world. In fact, there are more TOTAL users than all other data base users combined.

Environ/1

Sisyphus . . . the Corinthian King of Greek Mythology is the symbolic figure for Cincom's on-line data communications system. Sisyphus was chosen because companies involved in the development of on-line systems have often felt like they were sharing his plight. Sisyphus, having fallen into disfavor with the "gods", was sentenced to the eternal punishment of rolling a huge bolder to the top of a steep hill. But no matter how careful he was, each time he got it to the top, it would roll down the other side.

Automatically generated re-entrant code, message switching, screen paging, record protection, password security, and comprehensive checkpoint/restart are but a few of the many features of the Environ/1 system.
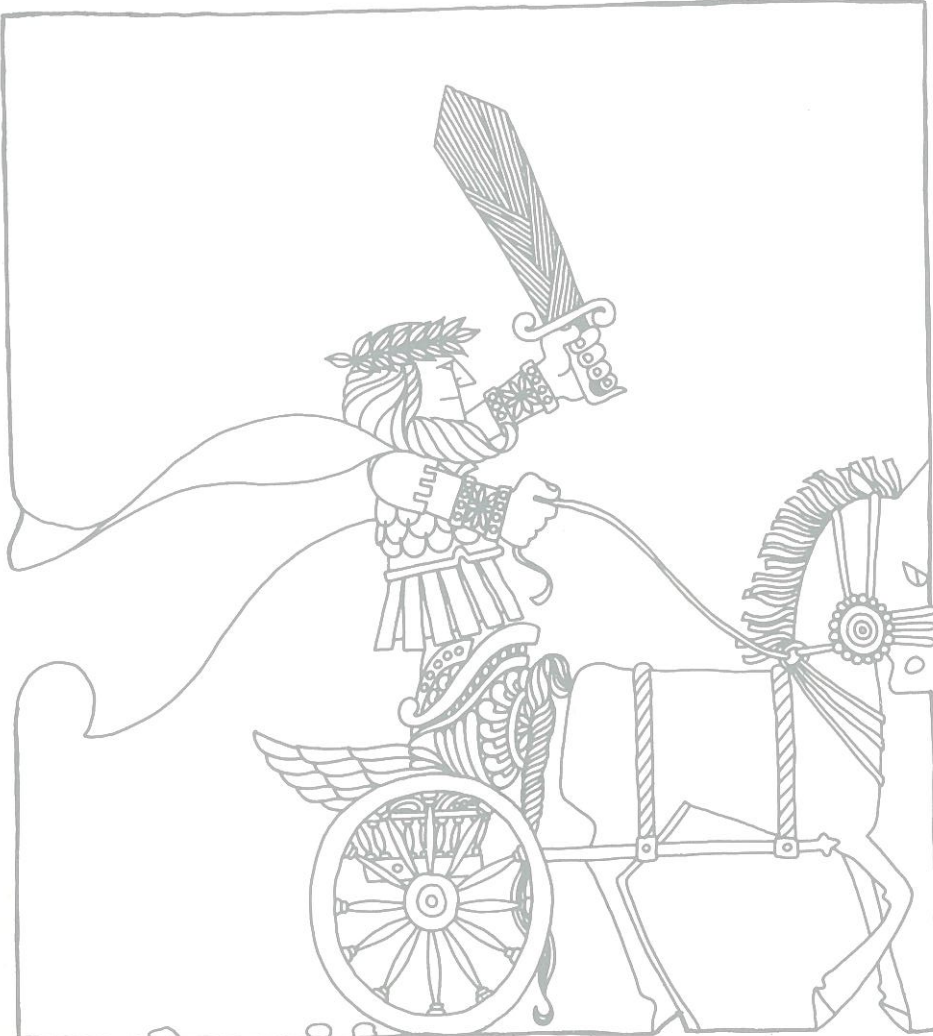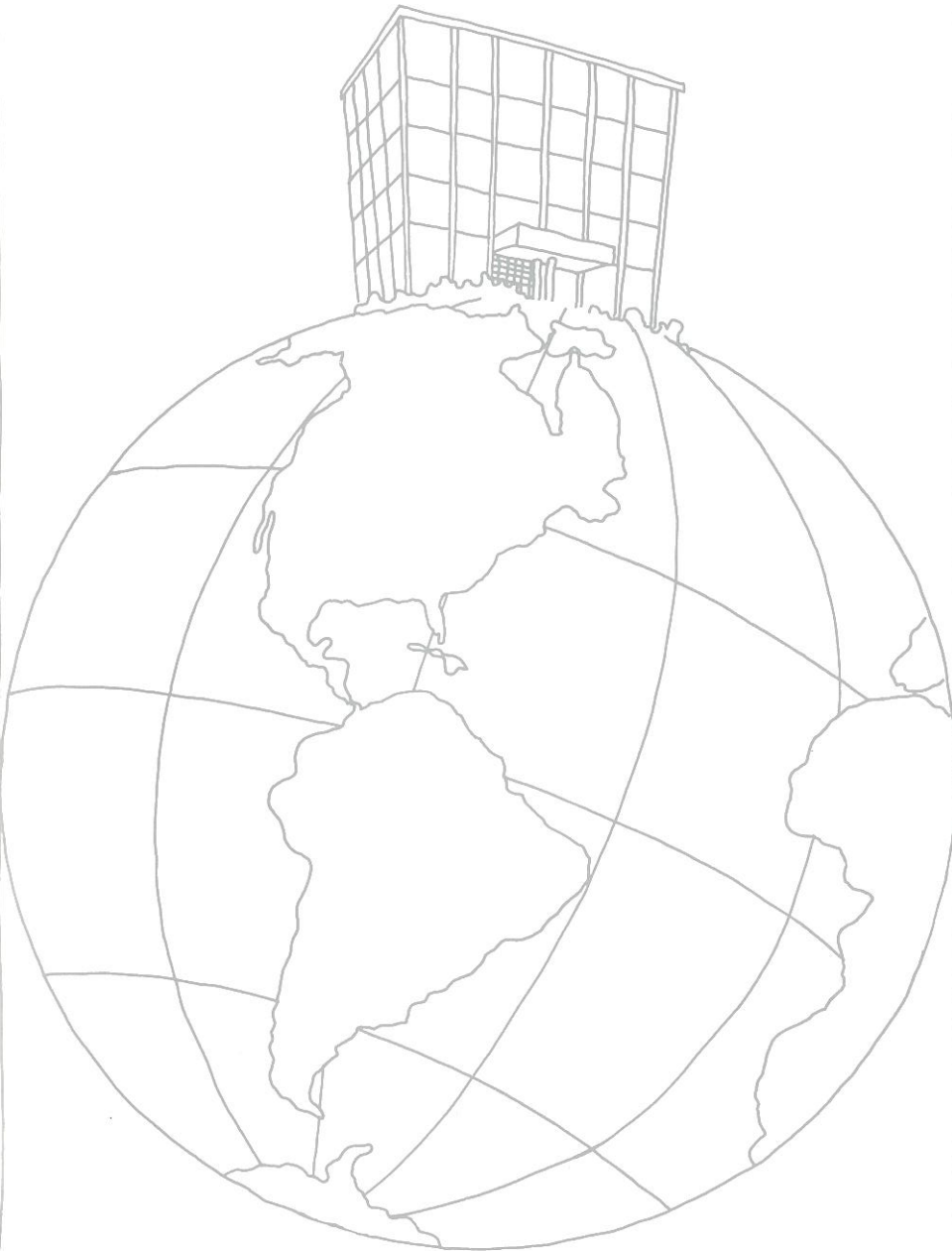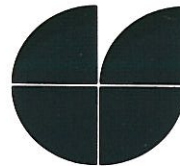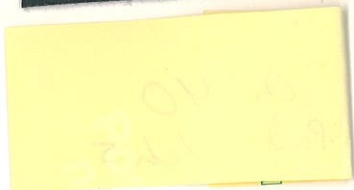
Cincom Systems
We create efficiency
around the world

CINCOM SYSTEMS, Inc. is a company dedicated to your success in data base/data communications. CINCOM is international in scope, presently serving five of the seven continents... and we are expanding throughout the world.

We have offices in most of the major cities in the United States and Canada. In Europe, our offices are located in the United Kingdom, Belgium, France, Germany, Italy, Switzerland, and Scandanavia. Cincom serves South America and Central America and there are also offices in Japan and Australia.

Our clientel is made up of organizations involved in almost every type of business endeavor. Leaders in manufacturing, insurance, banking, aerospace, education, data processing, automotives, services, government... In fact, leaders in every field are successfully using CINCOM products and services.

Cincom Systems Incorporated
2300 Montana Avenue
Cincinnati, Ohio 45211
513/662-2300
TWX 810-461-2732

Cincom Systems G.M.B.H.
Hohemarkstrasse 152
D-6370 Oberursel
Germany
(06171) 54061
TLX 410709

Cincom Systems of Canada Ltd.
55 City Centre Drive
Mississauga, Ontario L5B 1 M3
Canada
416/279-4220
TLX 610-492-7114

Cincom Systems (Australia) Ltd.
37 Alexander Street
Crows Nest
New South Wales
Australia 2065
439 3144
TLX Hrents AA 214700

Cincom Systems International S.A.
17-19 Rue Montoyer
1040 Brussels, Belgium
511-6548
TLX 61930

Cincom Systems International S.A.
St. Ives House, St. Ives Road
Maidenhead
Berkshire SL6 1 QS, England
Maidenhead (0628) 29456
TLX 851-847198

Cincom Systems France S.A.R.L.
Tour Montparnasse
33 Avenue du Maine
Paris 75755, France
538-1407
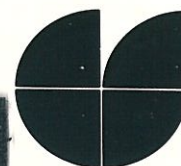
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2300 Montana Ave./Cincinnati 45211 (513) 662-2300