INPUT®

CONTACT REPORT

DATE WRITTEN: 5/19/88

COMPANY: ON-LINE SOFTWARE INT'L NAME: JEFF WEINBERGER TITLE: JEANNE BEARDEN ADDRESS: PHONE: (201) 592-0009	INPUT Staff: (INIT.) DAS (INIT.) ☐ Phone ☒ Visit Contact Date: 5/18/88	REASON: ☐ Sales ☐ Marketing ☐ Interview ☐ Present'n ☐ Hotline ☒ Support ☐ Other:	RELATING TO: ☐ UISP ☐ M/C ☐ CAMS ☐ FCSP ☐ MAPS ☐ EDIS ☐ FISSP ☐ OAAP ☒ CUSTOM ☐ CSPE ☐ OTHER ☐ ISPE ID YDB2

(1) REVIEWED REPORTS ON ALL 3 PHASES. MADE 2 SMALL CLERICAL CHANGES (REPORTED TO ORINDA)

(2) RECEPTION WAS 100% POSITIVE

(3) THEY WANT A FORMAL PRESENTATION, WHICH WILL HAVE TO BE AROUND MID-JUNE.

(4) THEY WANT 2 MORE COPIES OF PHASE I PRINTED REPORT & 5 COPIES EACH OF II + III WHEN COMPLETE.

(5) SOLD JEFF ON BUYING A COPY OF THE EUROPEAN CASE STUDY FROM '87 PROGRAM. WE NEED A PRICE.

(6) THEY REQUESTED COPIES OF COMPLETED QUESTIONNAIRES MINUS THE IDENTIFYING COVER SHEET. I AGREED ☐ EXTRA PAGE(S) ATTACHED

	ACTION DIST.	TIME REQUIRED	DESCRIBE ACTION OR FOLLOW-UP	BY WHEN	DONE	INFO DIST.
(1)	ORINDA	PLEASE	SUPERINTEND PRINTING + PROOFING			JF
(3)	DOM		DO WHEN YOU RETURN FROM VACATION	6/15		
(4)	ORINDA		PLEASE ARRANGE WITH SHEILA	ASAP		
(5)	NANCY		PLEASE SEND EXEC. SUMMARY TO JEFF WITH A PRICE	ASAP		
(6)	ORINDA		PLEASE COMPLY			

(Check all that apply)

☐ MAIL LIST ☐ Client ☐ Prospect ☐ Press ☐ Financial ☐ Key Contact ☐ Decision Maker ☐ Product User

COPIES: • Dist. Copying • Corp. Contact File • Route Mgrs.: - Sal/Mkt Files - Curr. Proj. File • Branch Contact File • Sales Acct. Rep. • Originator

M&S 300 1/87 (R)

ANALYSIS OF CASEPAC MARKET:
POSITION, POTENTIAL, PROBLEMS AND SOLUTIONS.
Phase III Conclusions

Prepared for

On-Line Software International
Two Executive Drive
Fort Lee, New Jersey 07024

Prepared by

INPUT
959 Route 46 East
Suite 201
Parsippany, New Jersey 07054

May 15, 1988

NEW HEADING INSERTED
Other Factors

WHAT'S RIGHT AND NOT RIGHT ABOUT CASEPAC

What's right:

A very large and well-heeled population of large-sca mainframe users running DB2 and MVS/XA.

A very strong desire on the part of virtually all of these users to employ CASE for some, and in many cases a very large, amount of their development work.

A fairly sizeable number already experimenting with CASE.

A growing tendency to employ DB2 for an increasing amount of the total workload, with a corresponding decrement in the use of IMS.

No apparent trauma over spending $200,000 for a CASE product.

A clear recognition of the need for a better dictionary function than that supplied by IBM and a fair degree of pessimism and skepticism about IBM's intentions in that regard.

What's wrong:

Not very many users appear to be buying or planning to buy mainframe based CASE products at this moment.

Of the mainframe CASE products mentioned, CasePac is running a fairly distant third against IEF and MSP.

Users want a full life cycle CASE environment, including code generation.

Most users do not view the "front end" analysis, design and prototyping tools as appropriate to the mainframe, but rather see them as appropriate to an attached workstation or PC.

Users are very naive and unknowledgeable about CASE and CASE terminology.

Users don't know which products have which features.

The above is particularly true with respect to CasePac, even among those who profess to having evaluated it.

Other Factors

There is no consistent pattern reported as to who the key decision makers are with respect to a product like CasePac.

Much of the decision making will be by committee or task force.

The composition of the task force will vary across many levels and functions in the organization.

ANALYSIS OF CASEPAC MARKET:
POSITION, POTENTIAL, PROBLEMS AND SOLUTIONS.
PHASE II: MARKET SEGMENTATION

PREPARED FOR

ON-LINE SOFTWARE INTERNATIONAL
2 EXECUTIVE DRIVE
FORT LEE, NEW JERSEY 07024

PREPARED BY

INPUT
Suite 201
959 Route 46 East
Parsippany, New Jersey 07054
(201) 299-6999

March 30, 1988

demands that elaborate CASE systems and components which go to the lengths described cannot possibly be left dangling in mid air, unable to work with each other.

Most of the present CASE tools in the marketplace reside on PC's and are targeted to the IBM mainframe environment, with a minority residing on and targeting DEC VAX. In the future we are likely to see CASE systems running on and targeted for a wide variety of mainframes, minicomputers, workstations and PC's. However, the "big money" will remain in the large mainframe sites, 70% or more of which are IBM: these are where the largest need is and where the big money to be spent is. It is a reasonable bet that upwards of three-quarters of all of the dollars to be spent on CASE technology over the next few years will come out of the very large IBM mainframe-based accounts, the top two or three thousand of whom will be running much of their work under DB2 and, in all probability, the rest under SQL/DS.

If we look at a total CASE marketplace of $1.63 billion, as our projections in the next section would suggest (SEE EXHIBIT 8), and apply factoring as follows: 3/4 IBM based, about 1/2 of that DB2 based in dollar terms, we winnowed down to a marketplace of over $600 million available to a product like CasePac which confines itself to the very large IBM MVS/XA DB2 environment. There is a further question about CasePac's full integration

APRIL 1988

ANALYSIS OF CASEPAC MARKET: POSITION, POTENTIAL, PROBLEMS, AND SOLUTIONS PHASE I: USER FEEDBACK

Prepared for

ON-LINE SOFTWARE INTERNATIONAL
2 Executive Drive
Fort Lee, New Jersey 07024

Prepared by

INPUT
Suite 201
959 Route 46 East
Parsippany, New Jersey 07054

Table of Contents

Exhibits

Background

This is the first deliverable in the study undertaken by INPUT under contract with On-Line Software International. The purpose of the study is to assess CasePac's strengths, weaknesses, attractiveness, competitive standing, and sales potential in its current form and to explore what that potential might be, given a range of plausible changes to the product and/or its positioning.

This report presents the results of a survey of IBM Mainframe Computer users, with DB2 chosen randomly from an extensive list provided by On-Line Software. The list we understand to be composed of prospects who have attended CasePac seminars, received CasePac literature and/or sales calls, or in some way have been exposed to the product. Our contract obligated INPUT to survey 25 such users; however, in the course of its analysis INPUT unilaterally extended the number of surveys to 35 in an effort to be absolutely certain of its findings. INPUT did not divide the interview population between companies on On-Line's list and DB2 users chosen at random, simply because it was clear that we were getting an excellent cross-section of interests and levels of CasePac awareness from the list as given.

Methodology

A detailed questionnaire (attached as Appendix C) was developed and reviewed extensively with Mr. Jeff Weinberger and, through him, with others in On-Line's organization. The resulting fourteen-question survey represents the very best thinking of all parties concerned.

INPUT telephoned individuals chosen at random from On-Line's list of some 350 "suspects." Most of the interviewing took place during the last two weeks of February, 1988.

Results

A. Exhibit 1 shows the distribution of respondents by industry and title. As can be seen, we had an excellent cross-section of IBM's mainframe customer base in terms of industry. Approximately half the respondents were concerned with data and data base administration, as such, and another four with information architecture and the like. Thus, the population of CasePac "lookers" is heavily weighted on the data side, as opposed to data processing and applications.

EXHIBIT 1

THIRTY-FIVE COMPLETED QUESTIONNAIRES WERE INCORPORATED IN THIS EVALUATION

A. INDUSTRIES REPRESENTED

Services	4
Discrete Manufacturing	8
Process Manufacturing	3
Distribution	4
Utilities	3
Transportation	3
Banking/Finance	7
Insurance	3
	35

B. TITLES OF RESPONDENTS

Data base administration, data/ data base analyst, etc.	16
Systems/business management/analyst	6
Technical services and emerging technologies management/analyst	5
Information management/analyst/architect	4
Systems programmer	3
Senior manager	1
	35

B. Exhibit 2 depicts the response to the first two questions regarding installation and use of DB2 and MVS/XA. This population, it is clear, has no technical impediment to the employment of CasePac. They are all IBM mainframe users with DB2 installed, and the vast majority are running XA.

EXHIBIT 2

SYSTEMS SOFTWARE ENVIRONMENT

1. INSTALLED DB2:

   All 35 are users or committed to be users.

2. RUNNING MVS/XA:

   Yes 32
   No 1
   Don't Know 2

C. Question 3 asked respondents to list the data base management systems installed, and to estimate the percentage of their current processing or information center activity running under each DBMS; respondents were also asked to project their workload percentage for two years from now. The results are presented in Exhibit 3. As expected, DB2 and IMS (and its variants) dominate. The majority reported DB2 usage in the 0-25% category, which, as shown by the more detailed breakout (of that category), is heavily concentrated in the 0-10% range, with a fairly significant number, five respondents, reporting zero usage at present. Only twelve of these same users project DB2 usage two years from now to be in the 0-25% category, and a total of seventeen project usage in the 26%-and-up category.

EXHIBIT 3

DBMS MENTIONS

	Total Mentions	Breakout 0-25%	Usage Now 0-25%	Usage Now 26-50%	Usage Now 51-75%	Usage Now Over 75%	Usage Now Don't Know	Usage 2 Yrs. From Now 0-25%	Usage 2 Yrs. From Now 26-50%	Usage 2 Yrs. From Now 51-75%	Usage 2 Yrs. From Now Over 75%	Usage 2 Yrs. From Now Don't Know
DB2	32	0	25	1	1	3	2	12	12	2	3	2
IMS	14	5	2	3	1	7	1	3	2	6	1	2
IDMS	4	<5	2			2		2		1	1	
IMS/DB-DC	4	9		1		3			1	2	1	
FOCUS	3		3					3				
CICS	3	5-10	1	1		1		1	1			1
SQLDS	3	8	3					2	1			
IMS/DL-1	2		1		1			1	1			
IMS/DB	2	10-25				2				2		
ORACLE	2	3	2					2				
TIS	2		1	1				2				
SQLDS/VM	1							1				
ADABASE	1								1			
SUPRA (CINCOM)	1									1		
VSAM/DL1	1		1					1				
INGRESS	1		1					1				
NOMAD	1		1						1			
ISM/VS	1					1						
VSAM	1				1							
IN-HOUSE	1			1					1			

Exhibit 4 clarifies the usage trend. Twenty-nine DB2 respondents are projecting an increase in usage, none projects a decrease, and only one forecasts staying the same. On the other hand IMS, together with all its variants, has only one user projecting an increase, four staying the same, and sixteen projecting reduced usage.

EXHIBIT 4

TREND FOR NEXT 2 YEARS

DBMS Mentions	Usage Increase	Usage Decrease	Usage Same
DB2	29		1
IMS (DL-1,DB-DC,DB)	1	16	4
IDMS		3	1
FOCUS	1		2
CICS		3	
ORACLE	2		
SQLDS (/VM)	2	1	1
OTHERS (IN-HOUSE, ADABASE, SUPRA, VSAM/DCI, INGRESS, NOMAD, IMS/VS, VSAM, TIS)	3	5	3

Three users erroneously reported CICS as a data base management system and projected a decrease in usage. The two Oracle users in the survey indicated increasing usage. The picture with SQL/DS, a sample of four, shows a mixed picture with two increasing, one decreasing, and one staying the same. The same thing is true of the sum of the other miscellaneous DBMSs mentioned.

D. Question 4 asked respondents whether they are using CASE in any form for applications development. Twenty-seven said yes, eight said no, and one did not answer. When asked to describe what kind of CASE was used, the responses fell as indicated in Exhibit 5. Ex-

EXHIBIT 5

CASE TOOLS IN USE

4. USING CASE TOOLS

YES: 27 NO: 8 DID NOT ANSWER: 1

4a. Those that said yes are using:

	MENTIONS
EXCELERATOR	8
IEW	5
TELON	4
PACBASE	2
IN-HOUSE-DEVELOPED	2
APS (SAGE SOFTWARE)	2
OTHERS	
IEF	1
EXPEDITOR	1
CADRE: TEAMWORK	1
CASE 2000	1
CADWELL	1
PRISM	1
MCAUTO PROKIT	1
AA DESIGN I	1
AA PROGRAMMERS	1
BACKMAN: PARODYNE	1
PC-BASED TOOLS	1
SYSTEM DEVELOPMENT METHODOLOGY	1
CONSULTANTS WITH TOOLS	1
4GL FOR CODE GEN.	1
VARIOUS	1

celerator clearly leads the pack with eight mentions, IEW with five, Telon with four, and the rest with only one or two. If one considers Excelerator and IEW as essentially equivalent—that is, PC-based design workstation products—the combination of 13 mentions predominates.

E. Exhibit 6 depicts respondents' estimate of CASE tools use now and in the future. Even though a large number (twenty-seven) reported using CASE tools, eleven showed 0% usage in the present, and seven more usage of 1-10%, indicating that the use of CASE is, among these respondents, still very much in its infancy. On the other hand only one respondent projected usage below the 15% mark two years from now, and a significant number project usage in the 40%-and-up columns, with eleven estimating 100%.

In total, 33 out of our 35 respondents will be increasing their use of CASE tools in the next two years, the majority very markedly.

EXHIBIT 6

PROPORTION OF WORKLOAD UNDER CASE

4b. Amount of work being done with CASE tools at this time.
(35 Respondents)

Percent	Mentions
0	11
1-10	7
11-30	3
50-60	5
75-85	7
90-100	3
Totals	36

4c. Work being done in two years using CASE tools.
(35 Respondents)

Percent	Mentions
0	1
15-20	2
25-30	1
40-50	6
65-75	4
80-90	5
95-97	2
100	11
Not Sure, but will increase	3
Totals	35

Trend for Usage

33 Respondents will be increasing their use of CASE tools
2 Will stay at approximately the same rate of usage.

F. Exhibit 7 shows the response to Question 5, which asked what CASE products have been evaluated. The questions specifically asked about MSP, Excelerator, IEW, IEF, CASE 2000, Telon, and CasePac, with an option to write in other products. As can be seen from the answers, the products that we specifically mentioned got the bulk of the responses, with 80% of the respondents mentioning Excelerator. IEW was not far behind with 71%. CasePac was mentioned as having been evaluated by 40% of the sample, a shade ahead of MSP at 37%. The rest all got only one mention. Only two users in this sample indicated that they have not done any serious evaluation of CASE tools.

EXHIBIT 7

CASE PRODUCTS EVALUATED

5. PRODUCTS EVALUATED BY RESPONDENTS

	TOTALS	RESPONDENTS (PERCENT)
EXCELERATOR	28	80
IEW	25	71
TELON	24	69
CASE 2000	16	46
IEF	15	43
CASEPAC	14	40
MSP	13	3
PACBASE	1	3
PROGRAM MASTER	1	3
AUTOMATE PLUS	1	3
YOURDON	1	3
APS	1	3
EXPEDITOR	1	3
CSP	1	3
HOLLAND SYSTEMS	1	3
PRISM	1	3
ADRS: IDEAL	1	3
LEVERAGE	1	3
RATIONAL	1	3

Two respondents said that they really haven't done any real evaluation at this time.

It is significant that, although every respondent in the survey appears on a list of companies that have investigated CasePac, only 40% of the respondents indicated a "Yes" to CasePac on this question. This can only mean that among the other 60%, their evaluation is either incomplete at this point, was done by some individual other than the respondent, or that the product was indeed evaluated but did not leave a significant impression on the respondents.

G. Question 6 asked a series of questions regarding the various CASE components or categories, defined as: (1) design tools, (2) data dictionaries, (3) code generators, and (4) full-life-cycle environments. Interviewers asked which components the respondents were using at the moment, which ones were likely to be in use two years from now, and which the respondents see as best suited to the mainframe environment. The results are depicted in Exhibit 8. Salient observations from this group of responses are as follows:

- A large number of respondents use CASE tools now, but only seven use what they consider to be full-life-cycle products. A surprising 17 out of the 27 who responded *yes* claim to be using code generators.

- 34 respondents out of 35 indicate that they will be using CASE within the next two years, and the number suggesting full-life-cycle use jumps from 7 to 26. At that point virtually everyone indicates the use of design tools, data dictionaries, and code generators.

- Of the 30 users who responded to the question about suitability for the mainframe, virtually all indicated data dictionaries are suitable, and a large number see code generators as part of the mainframe environment, but only 9 out of 30 visualize design tools as suitable, and 11 out of 30 feel the same way about full-life-cycle products.

We see a clear indication that CASE will become virtually universal in the large IBM mainframe environment, but that most users view design tools and full-life-cycle tools as belonging elsewhere than on the mainframe. This obviously makes the job of selling a product like CasePac more difficult than would otherwise be the case, suggests the possibility that a companion PC-based design station might make sense, and further suggests the possibility that independently selling the present dictionary and future code generation features might be successful.

The latter issues will be addressed in much more detail in subsequent phases of this investigation.

EXHIBIT 8

CATEGORIES/COMPONENTS OF CASE

	MENTIONS		
	6a. USE CASE TOOLS	6b. WILL USE IN TWO YEARS	6c. BEST SUITED TO THE MAINFRAME ENVIRONMENT
DESIGN TOOLS	25	34	9
DATA DICTIONARIES	20	33	29
CODE GENERATORS	17	31	22
FULL-LIFE-CYCLE ENVIRONMENTS	7	26	11

H. Question 7 restated our four-fold segmentation of CASE once again and asked respondents to indicate which functions they believed to be performed by CasePac, MSP, and IEF. The results are shown in Exhibit 9. Column 7a, for example, shows that there were six users who indicated on Question 5 that they had evaluated CasePac and responded to Question 7. There were also two respondents who indicated on Question 5 that they had not evaluated CasePac yet responded to this question. Below in the first column are the number of mentions, reflecting the perception of respondents as to which of the four functions apply to CasePac. As can be seen, among the six respondents who did evaluate CasePac, half thought it included category one, design tools; half thought it included category two, data dictionary; half thought it included code generation, and four ranked it as a full-life-cycle environment integrating all or most of the above.

EXHIBIT 9

FUNCTIONS BELIEVED TO BE PERFORMED

	7a. CASEPAC		7b. MSP		7c. IEF	
	Did Eval	Did Not Eval	Did Eval	Did Not Eval	Did Eval	Did Not Eval
(Number of Respondents)	(6)	(2)	(10)	(3)	(10)	(2)
FUNCTION						
Design Tools	3	2	7	2	9	2
Data Dictionary	3	2	8	3	8	2
Code Generator	3	2	4		7	
Full Life Cycle	4	1	3		4	
No Answer	(7)		(3)		(5)	

Interestingly, seven people who indicated on Question 5 that they had evaluated CasePac refused to answer this question. Two users did not evaluate CasePac according to their answer to Question 5, but did express the opinion shown in the second column of Exhibit 9 with respect to the functionality of CasePac. The corresponding numbers for MSP are shown in the 3rd and 4th columns, and IEF in the 5th and 6th columns.

Relatively more respondents seem to view CasePac as a full-life-cycle product, proportionally, than is the case for MSP and IEF. The evaluation of CasePac seems to be evenly divided among the four categories, whereas it is heavily weighted toward the design and dictionary functions in the case of MSP and IEF. At least five respondents believe that CasePac includes code generation when, of course, we know it doesn't. Apparently On-Line Software has had some success in promoting CasePac as an extensive tool set, glossing over the absence of code generation and, apparently, creating the impression of a full-life-cycle

environment product. As can be seen in the next question below, the absence of code generation was not specified by anyone as a reason for not buying CasePac.

I. Question 8 directly asked whether the respondent intended to purchase any one of the products previously discussed, i.e., CasePac, MSP or IEF. The responses, recorded in Exhibit 10, were six *yeses*: three in favor of IEF, two choosing MSP, and one interested only in CasePac's data dictionary and with a significant chance of going to IEF instead. Significantly, twenty-nine respondents have not decided to buy any of the three, and the preponderance of those are still

EXHIBIT 10

PURCHASES OF MAINFRAME CASE PRODUCTS

8. DECIDED TO BUY CASEPAC, MSP, IEF YES - 6

Of These:
1 Person wants Casepac's data dictionary only. Same person has a 30% chance of buying IEF
2 People bought MSP
3 People bought IEF

Not decided to buy any of the three - 29

8a. Why:

Still evaluating/searching	12
Looking at IEF, Excelerator	2
Bought/have IEW	2
- Excelerator	2
- Teamwork	1
Still undecided, think IEF the best	1
Using what they have	1
Developing tools in-house	1
Doing in-house with Bachman	1
IEF tied to methodology, need industry standard	1
Casepac on M/F, wrong place for CASE tools	1
Looking at code generators	1
Stopped looking	1
Money	1
No answer	1

shopping. Two indicated that they have purchased IEW, two Excelerator, and one a product called Team Work. Another was undecided but leaning strongly in favor of IEF.

Clearly a very large number are undecided, but among those who have made a decision in favor of a mainframe-based product, the tide is running with IEF and MSP, not with CasePac. Significantly, no one cited any specific product deficiencies or pricing issues as reasons why they have not purchased any of the three mainframe products asked about. Another segment of this question asked how the purchasing decision was, or is, arrived at. Results are summarized by category in Exhibit 11. The specific answers to the question are presented in detail in Appendix A. Overall, twenty-one indicated a group decision rather than a decision by a specific individual, and the composition of the groups and the specific individuals is widely scattered but heavily weighted in favor of MIS management and staff, and systems development management and staff, as opposed to such other functions as data administration, data base administration, technical and analytical staff, and the information center. The overall implication appears to be that the decision will most likely be a group one, and that the group may well be dominated by MIS and systems development.

EXHIBIT 11

CASE DECISION MAKERS

8b. Decision makers by title

	MENTIONS	
	MANAGEMENT	STAFF
MIS	10	2
SYSTEMS DEVELOPMENT	7	3
DATA ADMINISTRATION	1	1
DATA BASE ADMINISTRATION	4	1
TECHNICAL/ANALYTICAL	2	1
TASK FORCE	9	
INFORMATION CENTER	1	1

28 RESPONDENTS
43 RESPONSES

However, if CasePac were unbundled and the data dictionary segment sold independently, the decision-making balance could conceivably shift toward data base and data administration.

J. In answer to the query on buying or timing influenced by expected product delivery from IBM, as shown in Exhibit 12, seventeen said yes, and seventeen said no. The IBM "waiters" seemed to be looking for direction and/or product, whereas of the other 17 who are not influenced by IBM, only eight gave a reason. Those eight answers seem to convey distrust and disdain.

EXHIBIT 12

IBM INFLUENCE

8c: Buying/timing influenced by IBM

YES: 17 DON'T KNOW: 1

4	Look to IBM for direction
3	Waiting for repository, data dictionary
2	Waiting for SAA
1	Waiting for release of IMS
1	Waiting for DB2 - data dictionary
1	IBM influences marketplace
1	Waiting for DB2 to interface with ICF
1	Lack of availability

NO: 17

4	Don' trust IBM
1	Removed IBM dictionary, wrote their own
1	Ignored IBM, bought their own
1	In test phase
1	IBM has long way to go

K. The stage was set for the next series of questions by, which began by reading to the respondent the following:

"Let's focus on CasePac for a moment. Suppose I define CasePac as a rather extensive CASE system beginning with a graphical front-end for data modelling and process

> charting in support of the Chen and Gane & Sarson methodologies. As a common repository for data, process, design, documentary, operational and maintenance information plus program code. It accepts COBOL, IMS and VSAM file definitions and generates and maintains DB2, IMS and flat file descriptions. Includes extensibility, version control, and automated documentation maintenance features."

The respondents were then asked what their requirements are in the CASE context and which ones could be filled by CasePac, IEF, MSP, and a "write in" candidate of their choice. With respect to requirements the results are shown in Exhibit 13. About 20% of the respondents mentioned all of the items in the previous definition as being required. The next most frequent mention was code generation, followed by data dictionary, design tools, common repository, and so on. Of the single responses, the two at the bottom of Exhibit 13 are worthy of comment. One user specified everything <u>but</u> code generation (the only such response), and the other specified "whatever IBM's repository doesn't do." Meaning, we assume, that IBM gets right of first refusal in this user's shop.

EXHIBIT 13

STATED CASE REQUIREMENTS

9. REQUIREMENTS FOR CASE TOOLS

32 RESPONDENTS

	Mentions	Percent
All of the above (Definition given)	15	19.5
Code generator	10	13.0
Data dictionary	7	9.1
Design tools	7	9.1
Common repository	6	7.8
Graphical front end	5	6.5
Data Modeling	4	5.2
Documentation	4	5.2
FLC	3	3.9
Process Charting	2	2.6
	63	81.9

Impact analysis	1
Distributed environment	1
Language independence	1
Lepload data definition	1
JCL generation	1
Enforce diagram rules	1
Project estimating/mgmt tools	1
Ease of updating of components	1
System config. control	1
AI capabilities	1
File maintenance	1
All of the above, but CG	1
Whatever IBM repos. doesn't	1

Exhibit 14 goes on to delineate the product-oriented responses to Question 9, beginning with CasePac. Once again we have divided the answers into mentions that come from respondents who indicated in Question 5 that they did evaluate the product, versus mentions from respondents who indicated earlier that they did not evaluate the product. As can be seen, there were twelve mentions of CasePac as capable of all of the defined functions, half from users who had evaluated CasePac and half from those who had not. There were six (erroneous) mentions of code generation capability, and some of the "all of the above" answerers may have glossed over the absence of code generation in the definition and blithely assumed that code generation was, indeed, included.

Interestingly, the other products did not come even close to the preponderence of "all of the above" answers given to CasePac, but we did give CasePac the advantage by clearly defining it, which we did not do for the other products. The best that can be said about this particular exercise is that if the users clearly define their requirements, and then receive a clear definition of the functionality of CasePac, a good number will agree that CasePac does what is required. Obviously, the absence of code generation cannot be permanently glossed over and should be remedied via an appropriate interface, which we understand is in the development queue. One other point worthy of note was the significantly larger number of "don't know" answers with respect to IEF than with either CasePac or MSP.

EXHIBIT 14

DBMS MENTIONS

	9a. CASEPAC		9b. IEF		9c. MSP		9d. EXCELERATOR	
	Eval Can Do	Not Eval Can Do	Eval Can Do	Not Eval Can Do	Eval Can Do	Not Eval Can Do	Eval Can Do	Not Eval Can Do
All of the Above	6	6	2*		1			
Code Generator	2	4	2*		4		1	
Data Dictionary		5	1	1	2	1	1	
Design Tools		4	*	1	1	1	1	
Common Repository	2	2	2		1	1		
Graphical Front End	1	1	3		1	1		
Data Modeling	2		*		1*	1		
Documentation		2	*	1	1			
Full Life Cycle	1	1	2		1			
Process Charting		1		1	1			1

*Indicates a "don't know" answer.

L. Respondents were then asked whether CasePac's $200,000 price was reasonable, too much, or a bargain. Exhibit 15 lists the responses, which seem to indicate that the majority (63%) feel that CasePac's price is not out of line. It's probably not out of character that some of those who responded that CasePac's price was too high were simply providing a pro-forma stock response to the price of any mainframe software product. There is certainly no evidence in this study that price is a deterrent to the sale of CasePac.

EXHIBIT 15

REACTION TO CASEPAC PRICING

10. COST OF CASEPAC

RESPONDENTS ANSWERING QUESTION: 27

	PERCENT
REASONABLE	56
TOO MUCH	3
A BARGAIN	7

M. The answers to Question 11—which asked the respondent to define the terms "Data Dictionary," "Repository," and "Encyclopedia"—elicited a wild diversity of answers, which are shown in detail in Appendix B. Exhibit 16 tries to impose some order on this diversity. The single most frequent category of answer was the response of ten users who said, in effect, that the data dictionary is essentially File Definitions, whereas both the repository and the encyclopedia contain relationships, process data, and various other kinds of information and that the latter two are more or less synonymous. Six users thought all three were synonymous, and another six believed that the repository is physical storage housing the encyclopedia, which in turn contains the actual information. Seven confessed that they simply don't know.

EXHIBIT 16

DEFINITIONS

11. CATEGORIES OF DEFINITIONS OF DICTIONARY, REPOSITORY, AND ENCYCLOPEDIA

- Don't know: 7
- All three essentially the same: 6
- DD essentially FDs; R & E contain relationships, process data, and are pretty much the same: 10
- R is storage; E is information: 6

The lesson learned here is that the marketplace simply does not know the difference between a data dictionary, a repository, and an encyclopedia, and that any vendor attempting to position a product in this arena must define its terms at every turn.

N. In Question 12, the respondent was asked to allocate CasePac's $200,000 price tag among its major functional components, as shown in Exhibit 17. The average price stated, the range of prices, and the standard deviation of the prices stated are shown.

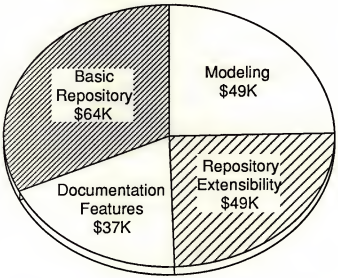
Variability was less in the first and last categories (data/process modeling and documentation/maintenance features), but the dictionary and extensibility categories certainly would have scored higher and have shown less variability had one respondent not assigned them essentially zero value.

What is significant is that on average the respondents tended to see significant value in all of these components; none were valued to the exclusion of the others. Except in the case of one individual, there is no evidence that price is a problem for CasePac.

EXHIBIT 17

USER VIEW OF APPROPRIATE ALLOCATION

Total CASEPAC Price of $200K

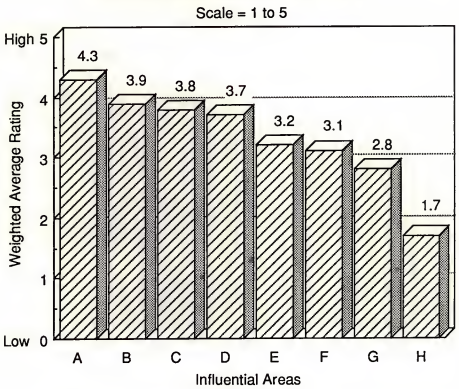


Value of Components Broken Out

	Average	Range	SD
Data/Process Modeling	49	20-100	19.8
Basic Dictionary/Design Repository	64	.002-120	26.5
Repository with Extensibility	49	0-135	26.1
Documentation/Maintenance Features	37	10-80	15.8
	$199K		

O. Exhibit 18 shows the estimated influence of various areas of the organization on the purchase decision for CASE products. Here data base administration shows up very strongly along with applications development, both just slightly below MIS management. Planning groups also are rated fairly high. Decision support and QA received very high ratings, but from only one respondent each, and must therefore be discounted. Security and Auditing were mentioned by two other users, but were given very low influence ratings.

EXHIBIT 18



KEY:

A: MIS Management (4.3)
B: Applications Development (3.9)
C: Data or Data Base Administrators (3.8)
D: Planning Group (3.7)
E: Product Specialists (3.2)
F: Upper Management (3.1)
G: Technologists (2.8)
H: End Users (1.7)

As expected, the decisions surrounding CASE are complex and multi-functional, and therefore are, as one would expect, influenced by a number of different components of the organization. Successful CASE vendors will obviously have to touch a number of different bases in order to win business.

P. Exhibit 19 depicts the answers to the remaining three questions of the survey, which had to do with the importance of various aspects of CASE. Question 14 asked whether the respondent visualized being able to "draw a picture" of an application at a workstation and ultimately have executable code produced at the end of an automatic process. Thirty of the thirty-five believed that this will happen, but the average level of importance attached to this function was quite low: 2.1 on a scale of 1 to 5. On the other hand, virtually all granted highest importance to seamless integration among the various CASE and dictionary components, a rating of 4.9.

EXHIBIT 19

IMPORTANCE OF VARIOUS CASE ATTRIBUTES

14. DRAW PICTURE? YES: 30 NO: 5

IMPORTANCE: 2.1

14a. Seamlessly integrated: 4.9

14b. All components, single vendor: 2.9

Conversely, single-vendor procurement of all the components was considered to be only of modest importance, scoring a 2.9 (slightly below midpoint).

Conclusions

In this rather large population of CasePac suspects, there are no technological impediments to purchasing CasePac and no indication of significant price resistance.

CASE is, or will be, in use by virtually 100% of this population.

It is likely that any CASE decision will be a group decision, with heavy participation from MIS and applications development as well as from data and data base administration.

Considerable confusion exists about definitions of terms central to an understanding of products like CasePac, and the population queried does not have an accurate idea of what is and is not contained in CasePac and its close competitors, IEF and MSP.

Among various CASE alternatives, the PC-based "workbench" products, namely Excelerator and IEW, enjoy a runaway lead in terms of current use, evaluations, and purchase intentions.

Respondents are not concerned that CASE tools all come from the same vendor, but they want them "seamlessly integrated" and expect them eventually to "produce code from pictures," but this degree of automaticity is not very important in the short run.

The mainframe environment is generally viewed as more suitable for dictionaries and code generation than for design and full-life-cycle CASE products.

The absence of code generation was not cited as a reason for not buying CasePac, but many respondents believe erroneously that CasePac does perform this function.

Finally, CasePac is running against a powerful PC-Workbench tide, into a complex decision-making matrix of functions and people, and, if this sample is any indication, is playing to a relatively naive and uninformed audience.

Appendixes

Appendix A

Question 8-B

1. VP System Development, Managing Director SI, VP Computer Operations
2. My team (still to be filled).
3. Myself (Manager Business Systems). We still have to decide on the package.
4. Refused
5. MIS Director, VP MIS, Sr. Manager MIS
6. VP and lower, Sr. Data Planner
7. Myself (Director of Info. Technology) & MIS staff
8. Head of Systems & Programming. We selected APS because it generates Native COBOL.
9. VP of MIS
10. Basically it's a group decision. How MIS as a whole is approaching it. Not the decision of key individuals.
11. IEW - Development Dept. decision. Not one person, *per se*.
12. NA
13. Currently reviewing these products by going to seminars. Then we'll make appropriate decision.
14. Technical, analytical people.

15. MS VP, Directors, Managers of system development, Manager Development Center, data administration, decision support.

16. We've formed an Emerging Technology Group, a Technology Advisory Board with representatives from every line of all major business segments. In the past, the group or division that screamed the loudest got what it wanted; now with the TAB, we coordinated all Technological Groups until we agreed on something workable. We're injecting corporatewide views into the decision-making process.

17. No idea. We were a consulting group at the time, before we became a part of chore.

18. We (MIS) need to get our act together. The Application Development Managers have the most say.

19. VP of Information Center.

20. It's a large group of people—conservative.

21. IEW already in place—over one year

22. Myself (DB Administrator) and my manager.

23. I was not employed here at the time, but heard that 3-1/2 years ago the DB area and Dev. Support area made the decisions. Application generator was a main concern.

24. Don't know who the main decision maker is. It has been suggested that the company is leaning heavily on Excelerator right now.

25. Myself (Data Administrator).

26. Myself (Manager Technical Services).

27. We formed an Architecture Management Council to review and evaluate.

28. Database Administration team.

29. Various departments, not just one person.

30. Hasn't happened yet. I (Data Resources Administrator) am involved.

31. Combination of two areas: Management and ISD. Not one person, *per se*.

32. Group of 2-3 individuals evaluated CASE-type products.

33. MIS Department.

34. Seeking a data driver approach, a task force committee made up of people from Development, Info. Management, QA, and Standards.

35. The Development Managers and the Data Administration Manager, Director DP.

36. Has become very apparent we need to go into a more sophisticated system, especially from trade journals. We've come to realize the power of these tools from speaking to industry people who have access to CASE.

OVERALL: 21 gave indication of a group decision rather than that of a specific individual.

Appendix B

Question 11.

1.	DD: Interactive, interface with	R: More of a place for documentation	E: Research tool
2.	All basically the same with the exception that a Repository may be reusable.		
3.	DD: Natural evolution for storing data. A Flat File; nothing more than to store PSP, SSA's. Source code	R: Must have implicit (pre-defined) connections.	E: Same as a Repository
4.	DD: Stores names and descriptions (basic info.)	R: Central warehouse for data encompassing relationships, extend dict.	E: Similar to Repository
5.	DD: Repository of data definitions	R: Same as DD	E: No idea
6.	Too many definitions out there; couldn't attempt to define.		
7.	DD: Contains info. about data and systems use of data	R: Includes what DD has, plus info. about system configuration	E: TI's word for DD
8.	Can't say.		
9.	DD: Limits itself to description of files, record layouts	R: Grabs all s/w components and relates them to each other, incl.	E: Explains what it's for, not just how they relate

		system procedures and directions	
10.	DD: defines elements	R: Where these elements are actually stored	E: Interrelation of the data in the DD
11.	All involve methodata. Depends upon definition. CasePac is generic. (Respondent seemed to be confident about saying there would be several definitions, depending upon to whom one speaks.)		
12.	DD: Has definitions of all terms, attributes edit values of fields and where used, creates record descriptions	R: Collection of data to support info. management needs, summary of corp. data, end user for exec. decisions	E: More of supporting documentation relating to system data elements
13.	No answer		
14.	DD: Characteristics of data stored	R: No answer	E: User understands definitions, how/ where items used (logical)
15.	DD: Stores elements	R: Metadata repository for system parameters operations environment info.	E: Used interchangeably with Repository
16.	DD: function is everything has to be common to all the tools; it has to be auditable (track all changes), handle security, access control, and where strategic planning can access its components	R: E: These terms have been bastardized by the vendors as well as by the users.	
17.	All basically the same; depends on who (which company) is defining it.		
18.	DD: Tracks data items (records, fields)	R: Not much more than a place to save stuff	E: Collects and organizes data entities needed for reference during development process. Handles info.

			re: project mgmt., estimation, and reporting capabilities
19.	DD: Just a repository	R: Similar to DD, but has more data	E: Knows about the data that it stores
20.	DD: (for people)	R: Complete (for machines)	E: More complete

There's a Martin & TI text definition, and many different definitions. Technology should move off the MF; less expensive then. Developer has a similar product to CasePac with a 5,000 price tag!

21.	DD: Can have active use of data defs. from multiple sources of.... (screen development)	R: Keeps data of each one individually. Sometimes looks interactive, but actually is not	E: same as R

Interviewee feels IEW is Repository and Encylcopedia combined.

22.	DD: Data above data. Every element within an organization	R: Processing systems included along with DD example	E: ?
23.	DD: Tracks all processes, maintains cross relationships	R: No answer	E: Book of facts
24.	DD: Repository of data and its attributes	R: No idea	E: No idea
25.	DD: Documentational tool for data elements	R: and E: Interchangeable Both cover life cycle of data elements (the how, who, where, and when)	
26.	DD: Accumulates pure corporate data, no definitions; for use with DBMs	R: Has all system definition requirements	E: Like R., depends on vendor you ask
27.	DD: Describes what is in it	R: Stores entities with relationships	E: Focuses on relationships more

All basically the same thing.

28.	DD: Contains details for R & E	R: and E: Synonymous	
29.	Don't know		
30.	DD: data elements	R: Descriptive encompassing documentation—screens maps, job streams, status checks—to ensure connections, central storage, and data info. that can be managed	E: Same as R, and narrative
31.	DD: Management tool Programmer tool where centralized data is stored	R: File where data is kept	E: Never heard this term before
32.	Different definitions; did not care to state his own. "Repository is the hot spot right now." Everyone feels this is most advanced. Ideally the best solution if it's possible.		
33.	Synonymous terms		
34.	DD: and R: One in the same for more technical aspects		E: Nontechnical equipment that end users would need. Answers *how* and *which* and directs you to further info.
35.	Not much difference.		
36.	DD: Describes data/ format	R: Carries a memo-type piece of info. and how/where it's used, how it's applied.	E: DD and R combined

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. YDB2
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☐ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: _____

COMPANY: _____ CO. TYPE: _____

ADDRESS: _____ SALES: _____

_____ NO. EMPL: _____

_____

_____

INDUSTRY ☐

☐ Discrete Manufacturing
☐ Process Manufacturing
☐ Transportation
☐ Utilities
☐ Telecommunications
☐ Distribution
☐ Banking & Finance
☐ Insurance
☐ Medical
☐ Education
☐ Services
☐ Federal Government
☐ State & Local Government
☐ Other Industry Specific

INTERVIEWS

NAME	TITLE	TELEPHONE NO.

SUMMARY _____

_____

_____

_____

REFERENCES _____

_____

_____

INTRODUCTION

Hi, I'm _____ from INPUT, the international market research and business planning firm. We'd like a few minutes of your time to solicit your opinions, along with those of 25 other top IBM users, on some key database management and software development issues. Our client is a major IBM-based software developer who asks for your help in shaping current and future product.

In return, you'll receive an executive summary of the overall response to this survey. It will only take a few minutes. Is now okay?

1. Please let me verify: Have you installed IBM's DB2?

_____Yes _____No

1A. If no, do you plan to? _____Yes _____No

When? _____ (Answer the remaining questions on the basis of what you think is likely after) you install DB2.)

2. Are you running MVS/XA? _____Yes _____No

2A. If no, when do you plan to bring up XA? _____

3. Let's list the Data Base Management Systems you have, for example: IMS, IDMS/R., etc. (a) Now give me a ball-park estimate of what percent of your current workload or information center activity is running under each (b) and what that will look like two years from now (c).

DBMS (a)	% of workload (estimate) (b) Now	(c) 2 years from now
DB2		

4. Do you use CASE (Computer Aided Systems Engineering) in any of its forms for applications development?

_____Yes _____No

4A. If yes, describe what you're using.

_____

_____

_____

_____

4B. What percent of your present applications work is accomplished using CASE?

_____%

4C. What percent of your applications work do you anticipate will be done using CASE two years from now?

_____%

5. Which CASE products have you evaluated?

____MSP ____Excelerator (INDEX) ____IEW (Knowledgeware)

____TI:IEF ____CASE2000 (NASTEC) ____Telon (Pansophic)

____CasePac (OSI)

____Other_____

6. If you were to describe the components of CASE as:

Check:	(6a) Use Now	(6b) In 2 Yrs.	(6c) Best for M/F	(7a) Case-Pac	(7b) MSP	(7c) IEF
(1) Design Tools						
(2) Data dictionaries						
(3) Code generators						
(4) Full life-cycle environments, integrating all or most of the above						

which components are your company using at the moment?(6a)

Likely to be using two years from now? (6b)

Which do you see as best suited to the mainframe environment (6c)

7. In your view, where does CasePac, MSP and IEF fit in the schema described in the previous question? (Repeat Question 6, 1 through 4, asking for affirmation.) (7a, 7b, 7c)

8. Have you decided to buy one of the products just discussed?

_____Yes _____No

Which ones? _____CasePac, _____MSP, _____IEF

8A. Why?

_____

_____

_____

_____

8B. How was the decision arrived at? What individuals, by title, participated?

_____

_____

_____

8C. Have your buying or timing decisions been influenced by your expectations of delivery of products from IBM?

_____Yes _____No In what way?

_____

_____

Let's focus on CasePac for a moment. Suppose I define CasePac as a rather extensive CASE system beginning with a graphical front end for data modelling and process charting in support of the Chen and Gane & Sarson methodologies. As a common repository for data, process, design, documentary, operational and maintenance information plus program code. It accepts COBOL, IMS and VSAM file definitions and generates and maintains DB2, IMS and flat file file descriptions. Includes extensibility, version control and automated documentation maintenance features.

9a. Assuming this definition is accurate, what are your requirements and which ones do you think CasePac might fulfill? (a)

Requirement	(9a) CasePac	Fulfill: (9b) IEF	(9c) MSP	(9d) Other_____
1._____				
2._____				
3._____				
4._____				
5._____				
6._____				

9b. How about TI's IEF? Which of those requirements does <u>it</u> fulfill? (b)

9c. How about MSP? Which of those requirements does <u>it</u> fulfill? (c)

9d. Any one other product come to mind? Which one?

_____

What requirements does <u>it</u> fulfill? (d)

10. Is CasePac's $200,000 price tag:

_____ reasonable
_____ too much
_____ a bargain

11. What, in your view, is the difference between a

Data Dictionary_____
_____

Repository_____
_____

and Encyclopedia?_____
_____

12. If CasePac product features were available separately, how would you allocate its total price of $200,000 among the various functional components?

Components	$
(a.) Data and Process Modelling features	_____
(b.) Basic Dictionary and Design Repository	_____
(c.) Repository with extensibility and import/export facility	_____
(d.) Documentation and Maintenance features	_____
Total	$200,000

13. In your company, which areas exercise the most influence on the decision to purchase a product like the ones we just discussed?

	Influence 1 = low 5 = high				
Applications Development people	1	2	3	4	5
Data or Data Base Administrators	1	2	3	4	5
End-Users	1	2	3	4	5
Technologists	1	2	3	4	5
Productivity Specialists	1	2	3	4	5
MIS Management	1	2	3	4	5
Upper Management	1	2	3	4	5
Other (Specify)					
_____	1	2	3	4	5
_____	1	2	3	4	5

Comments _____

_____

14. Do you visualize being able to draw a "picture" of an application at a workstation and having executable code come out the other end?

_____ Yes _____ No

Is this important to you in the near future?

Importance

1 = Low 5 = High

1 2 3 4 5

Comments _____

_____

_____

14A. How important is it that the various components of CASE and Data Dictionaries be seamlessly integrated?

Importance

1 = Low 5 = High

1 2 3 4 5

14B. Assuming, by definition, that the components talk to each other and work together, how important will it be for all the components of such a CASE system to come from a single vendor?

Importance

1 = Low 5 = High

1 2 3 4 5

Why?_____

Thank you so much for your time. We'll send you a synopsis of our findings from this survey as soon as the study is concluded.