July 26, 1989

To:	Charles Stevens
From:	Cathy Saffer, Charlie Tillinghast, John Fitzpatrick
Cc:	Randy Kahle, Mike Johnson, Tod Nielsen, Steve Podrachik
Subject:	PC DBMS Market size, Segmentation & Omega potential

Overview

The purpose of this document is to determine the PC DBMS market size and the size and nature of the various segments within this marketplace and other related markets.

The desired outcome is that we will identify a market(s) that utilizes Omega's strengths and downplays Omega's weaknesses. And that these markets are of sufficient size to support the Omega business plan.

Summary

According to our Business Unit Plan, Omega must average 6000 units per month, World-Wide in FY 1991. To do so we must be perceived as a serious feature competitor and capture 5.45% of the total CY 1990 PC DBMS market, essentially overtaking established companies such as Microrim, PC Focus, Revelation, et al, and come close to matching sales from companies such as Paradox, FoxBase and DataEase.

World-Wide PC DBMS Market

Units:	110,000/month, 1.32 million per year
Dollars:	$35,500,000.00/month, $430 million per year

U.S.-Only PC DBMS Market

Units:	60,500/month, 726,000 per year
Dollars:	$19,660,000.00/month, $236 million per year

Given this market size and the *Pre-Cut Omega* product, we are estimating a market penetration of 2.5 - 3% or 3-3500 units per month, World-Wide for FY 1991 (remember that ~~INTL~~ units will not come out until 3+ months after US ship.) Localized

There is potential for additional sales into markets outside the mainstream PC DBMS market. While these purchases are not clearly external to the main category, and will be examined in detail later in this document, they could represent an additional 1500-2,000 units/month World-Wide **if we make the necessary improvements in WinApps connectivity and SQL Server connectivity ~~to the~~ *Pre-Cut* product.**

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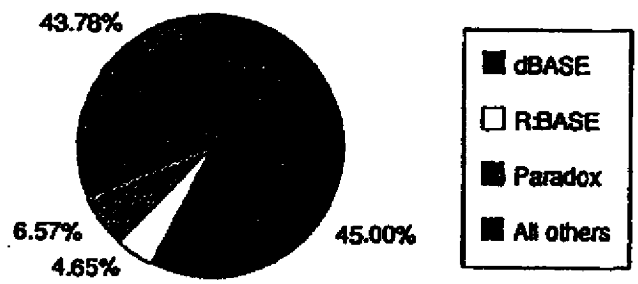
Methodology

We have focused our PC DBMS market size determination methodology on the close study of three companies: Ashton-Tate, Borland and Microrim. Given that we have concrete numbers from A-T and Borland Annual Reports, and that we have contacts that can provide actual sales figures for Microrim, our remaining variable to determine accurate overall market size, was market share percentages provided by external research firms. To balance the common inaccuracies from these firms, we chose several sources, averaged them and then reduced the resulting number in an effort to be both accurate and conservative.

World-Wide Market Share Estimates



We are not purposely excluding major PC DBMS products such as Oracle, FoxBASE, DataEase or futures such as Lotus, IBM EE, etc. We are simply using these product market shares as benchmarks to determine the overall market size.

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Itemized detail:

Source	Product	Market share
DataQuest	dBASE family	57%
IDC	dBASE family	45%
CIC	dBASE family	58%
Newton-Evans	dBASE family	73%
Sentry Market Research	dBASE family	56%
Dave Fulton, FoxBase	dBASE family	50%
PC Connection sales	dBASE family	40%
DataQuest	Paradox	8%
IDC	Paradox	7%
CIC	Paradox	10%
Newton-Evans	Paradox	3%
PC Connection	Paradox	20%
DataQuest	R:BASE	7%
IDC	R:BASE	6%
CIC	R:BASE	10%
Newton-Evans	R:BASE	8%
Sentry Market Research	R:BASE	10%
PC Connection sales	R:BASE	15%

See the financial profile addendum #1, share addendum #2

Estimated CY 1990 World-Wide PC DBMS Market

Given that we know Ashton-Tate, Borland and Microrim sales; and that we have solid, conservative estimates of their market shares, we can extrapolate the 1990 world-wide PC DBMS market to be:

Units: 110,000/month, 1.32 million per year
Dollars: $35,500,000.00/month, $430 million per year

U.S.-Only PC DBMS Market

Units: 60,500/month, 726,000 per year
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Sources: Annual reports, SEC 10-Q's, DataQuest, IDC, CIC, Newton-Evans, SPA, Ingram/Micro D, Gartner Group, et al

For Omega and the Microsoft Data Access Business Unit to achieve forecast and profitability in this market, we need to sell 6000 units per month in FY 1991, a 5.45% World-Wide market share.

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Niche DBMS Markets

We were asked to investigate specific internal & external usage/purchasing segments in and around the mainstream PC DBMS category. They were:

- Flat File Managers
- Multi-User (separate from single-user) DBMS
- Application Developers
- Database Publishing
- Windows
- Back-End Servers
- Business Form products

DBMS purchases in these markets are all essentially part of the total PC DBMS category. We have not found any strong evidence suggesting there is a substantial purchasing audience that has a real data management need and would *evaluate, purchase, learn, successfully develop applications and then recommend Omega*, that is not currently using a known DBMS product -or- intending to buy in the 18 month future - therefore part of the total PC DBMS category forecast and do not represent some new segment that would dramatically effect Omega sales without making significant improvements to the product.. The exceptions may be the Windows, Back-End Server and Business Forms markets which we will examine.

After a detailed analysis of the requested niche markets, we concluded that these market segments below did not represent any additional sales above and beyond what is already represented in the mainstream PC DBMS category:

1. Flat File product users. We are not competitive in 3 main areas: ease of use, system requirements and price. *(See the Software Digest evaluation of Omega and the Flat Filers)*

valid 30-35%

2. Single/Multi-User segmentation. We have not found any evidence suggesting there is now or will be in 1990, a market for single user-only DBMS products. All competitive DBMS products have some mechanism for running on a network with a basic level of concurrency control. Further, no research firms break the 1990 PC DBMS market into single or multi-user. 1/3 Mlt-Nw

3. Application Developers. This group is entirely in the PC DBMS category 6% → 10,000. 10%

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4. **Database Publishing.** There is only one real dbp product and this category may be eliminated before it starts based on improved DBMS report writers and Desktop Publisher connectivity to databases.

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Microsoft Windows

The positive exception of a purchasing segment outside of the PC DBMS category may be the Windows market. Since Windows is selling in such large numbers world-wide, one might think even a small penetration into this market could result in a reasonable amount of Omega units sold. See the following table provided by our Windows marketing team:

Category	Q-3 CY 1988	Q-4 CY 1988	Q-1 CY 1989
US Retail	102,347 units	95,587	59,082
US OEM (Lic & Package	221,826	215,861	262,319
US All Channels	324,173	311,448	321,401
World-wide all channels	546,944	584,769	627,218
Avg World-wide retail run-rate	47,937 units/month	48,421 units/month	34,521 units/month
Avg World-wide OEM run-rate	134,378 units/month	146,502 units/month	174,551 units/month

However, according to Rich Abel, a good portion of the OEM revenue does not represent real units be sold/used since many companies are charged for Windows due to their OEM license, yet don't ship [it.] He recommends cutting the OEM sales number by 40+%. Further, we find that a substantial portion of people buy retail Windows (25+%) and then don't use the product based on it's current inability to perform anticipated functions such as memory management and switching between two or more apps. Some of these problems will go away with Windows 3.0 but we will still use the adjusted numbers based on usage feedback from internal sources.

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See the adjusted table of Windows sales:

Category	Q-3 CY 1988	Q-4 CY 1988	Q-1 CY 1989
US Retail	76,760 units	71,690	44,311
US OEM (Lic & Package	133,095	129,516	157,391
US All Channels	209,855	201,206	201,702
World-wide all channels	436,024	459,809	454,003
Avg World-wide retail run-rate	35,952 units/month	36,315 units/month	25,890 units/month
Avg World-wide OEM run-rate	80,626 units/month	87,901 units/month	104,730 units/month

The question is *"will DBMS users live with the feature set of Omega to get Windows compatibility?"* Currently there are several ways to manage data under Windows: Bumblebee Software (Bellevue) makes a dBASE compatible product under Windows, Precision's SuperBase, DBMS features in Excel, Q+E (now bundled w/ Excel), Omnis Quartz, Windows forms packages that connect to many character-based DBMS products, etc. In addition, we have spoken directly with dBASE/Windows beta sites and we are peripherally aware of the PM or Windows products from Paradox, FoxBase and Microrim - all promised within the next 12 months. Therefore, it is wrong to assume we will be either first or best in the graphical database category.

The potential Windows database market should be divided into two main areas:

1. Those people with Primary interests in data management and secondary needs in superior Windows features such as GUI, DDE, etc.

2. Those people who use Windows software primarily and have need for a superior Windows family of highly compatible product or who simply prefer to purchase "brand Microsoft." To this group #2, data management features are secondary, else they would consider a character-based product, as well.

Based on the revised Windows market size of 1.565 million units/year (World-wide, retail + OEM) we will make an assumption that Group #2 would represent a 10% slice of the overall market. This 10% is less than 20-25% penetration of DBMS products into PC sales due to a portion of that group already being represented in the mainstream PC DBMS category. Group #1 would not represent more than 0.3% of the total

Windows market as they are almost entirely represented in the PC DBMS category.

10,000

Group #2 @ 10% of 1.565 million units/year = 156,500 units of Windows/year
Group #1 @ 1% of 1.565 million units/year = 15,650 units of Windows/year 10%

Total of group 1 & 2: 172,150 units/year

Estimated first year Omega market share into this graphical category could potentially be as high as 10% (17,215 units/year) based on improvements in our WinApps linking ability and "brand Microsoft" defined as a leadership position in other WinApps.

Total expected sales of Omega into the Windows Market incrementally above the PC DBMS Market = 17,215 units/year

Back-end Server Market

IDC and DataQuest do break out the Server Marketplace and we also have data from our own SQL Server group. Here is the estimation of total CY 1990 market size:

Vendors/Products	Units per month	Units per year	
Oracle Server IBM Ext. Edition Gupta SQL Base SQL Server XDB others	**All total:** **2,500 units**	**All total:** **30,000 units**	**Total Share 100%**
SQL Server	A-T's actuals 500 units	A-T's actuals 6,000 units	20% Share
Total SQL Server Potential in CY 1990	850 units	10,000 units	33%

While some segment of the Server market will be coming in from previous mini and mainframe DBMS product sales (15%) the majority of users (85%) considering a Server would already be using a PC DBMS and therefore should be included in the PC DBMS market. However, if we boost Omega's feature set enabling it to be the BEST front-end to SQL Server, in fact, so much so that users would evaluate and choose based on this feature alone and overlook most other Omega DBMS feature weaknesses, we may estimate capturing 5% of the Ashton-Tate (remember they sell dBASE, not Omega) forecast and 20% of the overall potential SQL Server forecast (includes MSFT OEM, etc.)

Ashton-Tate forecast of 6000 units/year x .05% = 300 Omega units
Balance of the SQL Server potential of 4,000 x 20% = 800 Omega units

These numbers should be multiplied by three since there would be approximately 9 nodes per server, yet up to 6 may be running a RunTime Application and 3 may be Full Product and therefore represent potential sales.

Total expected sales of Omega into the Server Market incrementally above the PC DBMS Market sales = 3,300 units/year

Application Developer Market

This market is clearly part of the PC DBMS category so we will not estimate any incremental sales potential above and beyond what we would receive from market penetration into the mainstream PC DBMS category. We will however, identify the size of the segment within the category.

David Irwin (founder Data-Based Advisor Magazine) estimates this total installed group to be 300,000 units or 6% of the overall market of 5 million PC DBMS units. If we conclude that the World-Wide 1990 PC DBMS Market is 1.32 million units, then Developers should represent 79,200 units per year. However, because these people make their living at application development using a specific product and sometimes supplemented with a lower level language, it is unlikely that they have a high switch rate, in fact, they have an extremely low switch rate based on our conversations with Developers. Assuming this, we will cut the new purchase potential of this market by 50% leaving a **total purchase potential of 39,600 units per year** within the 1.32 million units/year mainstream category.

Database Publishing Market

This market does not really exist as a segment of the total nor a unique segment of PC users. There is one mainstream player (dbPublisher from Digital Composition Systems, Phoenix, AZ) After long discussion with

Bill Dockery, VP Sales and Susan Dockery, VP of Marketing, they claim to be shipping about **1,000 units/month** (6,000 units since intro in Feb/89.) dbPublisher is mainstream because they read multiple file formats including dBASE, R:BASE, DataEase, Oracle, Paradox, 1-2-3, ASCII, etc. In addition to reading the file formats, they have a true, SQL-like query facility and a full, PageMaker-like page layout/formatting facility.

No other product in the "category" can do anything like this. At best they are either limited to one file format (R/Laser for Revelation) or are merely preparation utilities for Ventura or (Data/TAG or XVP/BASE)

The Dockery's fear competition on two fronts prior to their establishing a real hold: 1. report writers with better ties to the data adding DTP features 2. PageMaker and Ventura adding file format reading and Query tools. #1 is a definite possibility before we ship and #2 is a remote possibility with the exception of reading the file formats (PageMaker does this already and Ventura will follow soon.)

Given that there is no real market and that dbPublisher is getting major competition on two fronts from very established companies (especially vender-provided or add-on report writers) we will not make an estimation of penetration into the category.

Business Forms Market

This is an exciting category with 20+ players. Fall 1988 COMDEX had a great number of booth showing forms products under Windows, GEM, Macintosh and excellent character technology. All link to dBASE, 1-2-3, ASCII, et al. The category grew 92% from 1987-1988, with DataQuest predicting a 37% CAGR through 1992.

We must remember to think of this category as part of a DBMS report writer and not a DBMS data entry screen form. PC-based Business Forms products are used to duplicate printed business forms whether handled with a WYSIWYG data entry screen that duplicates the highly graphical printed output or simply a set of data points dumped onto a formatted page with enough graphical elements to represent a business form.

Prices range from $49.95 to $500 and features range from forms capabilities similar to what's available in Microsoft PC Works (ability to locate fields in a specific location) to full drawing, scanned graphics, colors, etc.

Current Omega report writing and forms generation tools would place Omega in the upper half of the DBMS business forms generation feature evaluation but the **mid to-lower half** of the forms category with products such as FormGen, JetForms, Horizon, FormMaker II and Per:Form being superior to Omega in the areas of symbols, circles, frames, curves, graphic format reading, font/color manipulation, etc.

The total category sales are not fully reported by most research firms, so our data is based on prices, industry average revenue per employee, etc. - essentially well-educated estimates.

Category Players	1990 Units/Month	1990 Units/Year
Instant Pages FormsFile FormFinisher FormTool EZ-Forms FormWorx Polaris FormZ FormGen Plus FormSet Horizon Per:FORM (PC Mag choice) DisplayForm II FormEasy JetForm FormMaker II PowerForm	**All Total: 12,000 units**	**All Total: 144,000 units**

This total should be divided into two purchasing segments:

1. Those with primary Business Forms needs who purchase a Forms package and perhaps later add a DBMS to improve the overall productivity of storing forms-oriented data.

2. Those who currently own a DBMS or Spreadsheet and purchase a Forms package to improve their output to business forms quality, thereby saving money over pre-printed business forms.

According to definitions in PC Magazine's June 13, 1989 review of the market, segment #1 is the majority. We will assume a 60% share of the total. Segment #2 is 40% and should be defined as a pure add-on market.

Because we are not an add-on product, we would not expect to increase sales by focusing on segment #2, Omega would only cannibalize Forms product sales at the rate in which those current DBMS users switch to Omega (already included as part of the mainstream PC DBMS category) and conclude that they no longer need a separate Forms product.

However, segment #1 may represent an opportunity if we can deliver a Business Forms-oriented message due to the fact that people in this segment start with a need for Business Forms and then purchase whatever product they feel will fill their need. The difficulty there is two-fold:

1. Quality Forms products work well with software that users may already own such as 1-2-3, dBASE, Word Perfect, etc. and Forms products only sell for an average of $40-200, street price.

2. We will not focus our positioning, PR or advertising on the Business Forms market and do not have enough communication monies to mount two major campaigns. This obviously limits our ability to communicate to people with Business Forms as a primary need, as we will be focusing our message on people with a DBMS need.

Therefore, we estimate the following potential from the Forms category:

Market Size	**144,000 units/year**
Segment #1	86,400 units/year
Segment #2	57,600 units/year
Capture 5% of Segment #1	4,320 units/year
Capture 0.3% of Segment #2	173 units/year

Total expected sales of Omega into the Forms Market incrementally above the PC DBMS Market sales = 4,493 units/year

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