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POSTAL RATE COMMISSION
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DIRECT TESTIMONY

OF

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ON BEHALF OF

E-STAMP CORPORATION AND STAMPS.COM

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May 22, 2000

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Direct Testimony of Raymond L. Boggs

My name is Raymond L. Boggs. I am vice president of Small Business and Home Office Research Programs at International Data Corporation (IDC) in Framingham, Massachusetts. I have a diverse background in the communications, computer, and office automation industries as well as consumer and channel research. At IDC I manage the Small Business Research Program, the Home Office Program, and the Small and Medium Business ePanel. I supervise the Education Market Research Program and also co-direct the Small Business Telecommunications program with the IDC Telecommunications Group.

As part of my work, I direct survey research, forecasting, and market analysis for advanced telecommunications, personal computing, and office automation products and services designed for small businesses and home offices. Research includes identifying key product requirements of different market segments, tracking changing customer channel preferences, and evaluating alternative strategies in response to competitive developments. I have consulted extensively on changing distribution trends for advanced technology products and the emerging communications and networking needs of small and home-based enterprises.

Prior to joining IDC I directed consumer and business research in the technology practice area of Response Analysis Corporation in Princeton, NJ.

I managed research activity to support the firm's Electronic Access program and provided qualitative and quantitative primary research to a wide range of clients. I previously established and managed the Small Business/Home Office (SOHO) Research Program and the Small Business Market Strategy Service at BIS Strategic Decisions in Norwell, MA. where I was among the first to identify and examine the growing SOHO market.

I have written articles for major trade and general business publications and am regularly quoted in Business Week, The Wall Street Journal, and The New York Times. I have been a featured speaker at COMDEX/Fall, the Consumer Electronics Show, and other industry trade shows. I served as a guest lecturer at the Anderson Graduate School of Business at UCLA. I completed my undergraduate work at Hamilton College and have earned graduate degrees from Brown University and the Boston College Carroll School of Management.

My testimony examines the current use of different postal solutions by small businesses and the opportunity associated with new PC and Internet postage products and services. My testimony looks at the size and scope of small business mailing activity, at the use of different mail products, at small business interest in new technology solutions, and presents market forecasts for the use of PC postage solutions.

I. Executive Summary

In this section of my testimony, I outline the basic PC postage technology, provide summary market forecasts, and present an overview of small business postage use.

A. New Indicia Program, Background and Basics

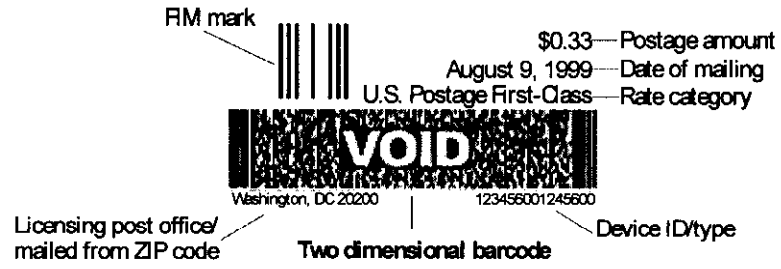
The U.S. Postal Service (USPS) has approved a standard way to encode postage and address information that makes it possible to generate PC postage. In my testimony, the term "PC Postage" is used essentially as the USPS uses it — to describe postage that is printed by the customer using the customer's own printer. There are a variety of PC-based mail applications that help businesses prepare mailings that can be printed and mailed by others, including some that support online refilling of postage meters. These and related applications are not examined here. Although different approaches can be used to implement PC postage, the Internet plays a key role as a conduit that delivers the postage to the customer for printing.

The enhanced barcode used to display postage information on a letter or package was developed through the USPS Information Based Indicia Program (IBIP), where digital postage is indicated by an Information-Based Indicium (IBI). The program plays a regulatory role in evaluating and qualifying commercial products and services used for computer-based postage printing, which enable consumers to purchase and print postage using their computers. Program goals primarily involve security, although effectiveness and convenience are also performance and evaluation criteria for IBI and PC postage

products. Different approaches using PC postage must be fully tested in a multistage beta process before formal approval can be given.

IBIP introduced PC postage in March, 1998. PC postage products print the IBI two-dimensional barcode that contains information important for revenue protection, such as the postage amount, a unique identifier, and mail processing information about the mail piece (see Figure 1).

Figure 1
IBI Two-Dimensional Barcode



Source: U.S. Postal Service, 1999

The IBI have the same information that is contained in the traditional postage meter indicia, including:

- Licensing ZIP code
- Destination delivery point
- Software ID
- Ascending register/descending register
- Algorithm ID
- Device ID
- Date of mailing
- Postage
- Digital signature
- Rate category
- Reserve field
- Indicia version number
- Certificate serial number

The IBI is printed on the envelope in the upper right-hand corner or on a label for placement on an envelope or package. The software in the PC postage product will verify the address information and deduct the postage amount from the customer's account. Mail pieces with the new IBI are introduced into the regular mail stream and

are processed in the same manner as metered mail, with no restrictions on destination addresses.

B. PC Postage Benefits to the U.S. Postal Service

PC postage has a number of benefits to the USPS:

- Reduced fraud, given the security of the technology
- Greater accuracy of postal addresses, since automatic inclusion of ZIP+4 postal codes occurs as part of the address validation process, whether via online or CD-ROM based approaches
- Reduced need for "bricks and mortar" post offices to accommodate increasing small business mail volume
- Support for PC-based mail applications that will contribute to significant growth in small business use of the mail for promotional purposes

The efficiencies of mail handling made possible with PC postage will be the biggest single benefit to the post office. In effect, the USPS is making postage partners of small businesses just as it is already subcontracting some of its sorting work to large mailers by offering discounts to those mailing large numbers of presorted letters.

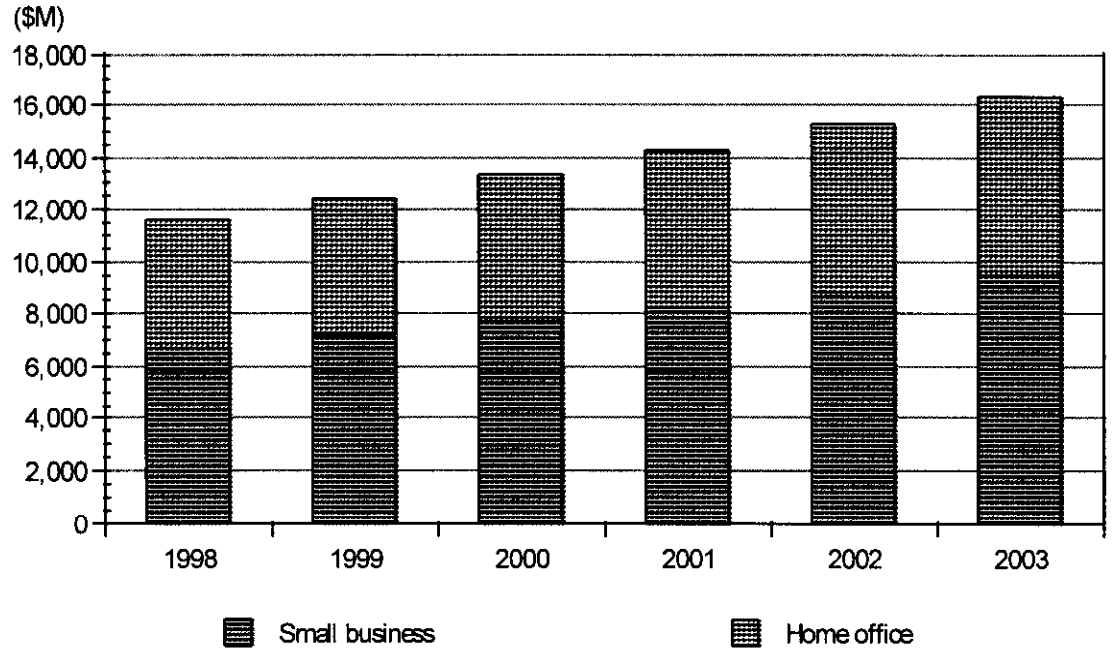
While the USPS is not offering discounts for using PC postage or the ZIP+4 code that directs mail to individual carrier routes, the convenience associated with the new technology seems sufficiently compelling. Rather than print stamps, the USPS in now

letting customers use their own printers, ink, and paper to print the postage themselves. We are moving from a 19th century technology to a 21st century technology.

C. Small Business and Home Office Postage Forecast

Figure 2 shows the annual volume of postage associated with small businesses (firms with under 100 employees) and income-generating home offices — specifically households where at least one person is working full time at a home-based business. Total postage spending for both segments combined will be growing at 7.1% annually from almost $11.6 billion in 1998 to $16.3 billion in 2003. Small businesses will continue to account for the largest share of postage spending throughout the planning period, although the percentage will decline slightly from 58.2% in 1998 to 57.7% in 2003 (see Figure 3).

Figure 2
U.S. Small Business and Income-Generating Home Office Spending on First Class Postage, 1998–2003



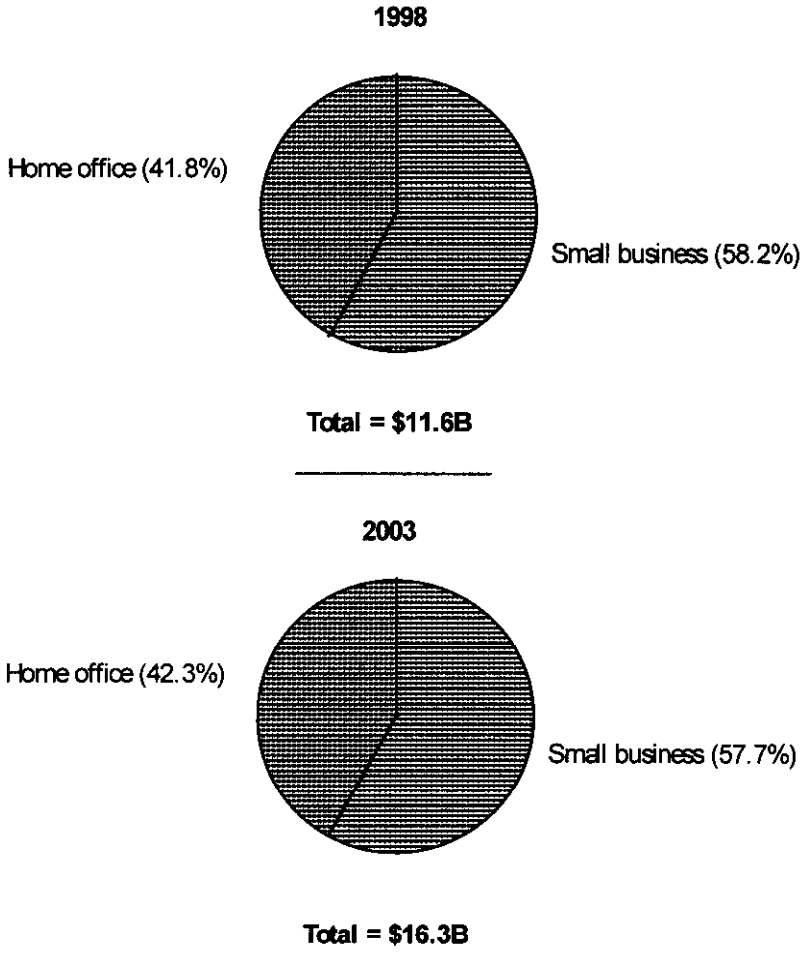
Key Assumptions:
- U.S. economic growth rates will not change significantly.
- Small business and home office spending on postage will continue to track closely with spending on other communications technologies.

Messages in the Data:
- Small business postage spending is relatively consistent across company size categories. Less variation by industry than in PC and network spending exists.
- While PC postage users will have above-average spending on postage, the impact of the technology on total postage spending will not be felt during the planning period.

Source: International Data Corporation, 1999

1

Figure 3
U.S. Small Business and Income-Generating Home Office Percentage of First Class Postage Spending, 1998 and 2003



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- U.S. economic growth rates will not change significantly.
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- Small business postage spending is relatively consistent across company size categories. Less variation by industry than in PC and network spending exists.
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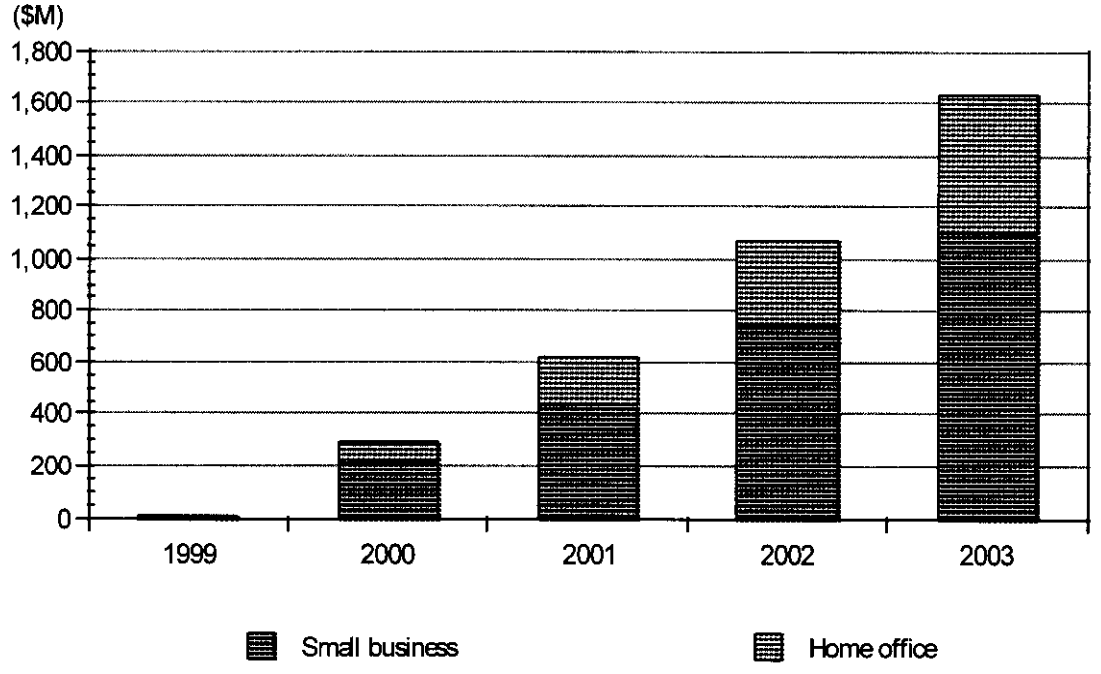
Source: International Data Corporation, 1999

Total spending on PC postage will be growing by 275.6% annually, as Figure 4 indicates. From the start-up year of 1999, when total PC postage spending (equipment

plus postage) will reach $8.2 million, annual spending will grow by a factor of roughly 200 to reach $1,632.3 million in 2003. IDC believes that PC postage will come to represent over 10% of total postage spending by small businesses and income-generating home offices. Revenue related to ground and overnight package delivery (specifically priority mail) will represent an additional opportunity for industry participants.

Figure 4
U.S. Small Business and Income-Generating Home Office PC Postage Spending, 1999–2003



Key Assumptions:
- U.S. economic growth rates will not change significantly.
- 1999 is the first year when PC postage is commercially available, beginning in August.
- PC postage estimates include spending of first class postage only. Overnight and parcel post package delivery are not included.

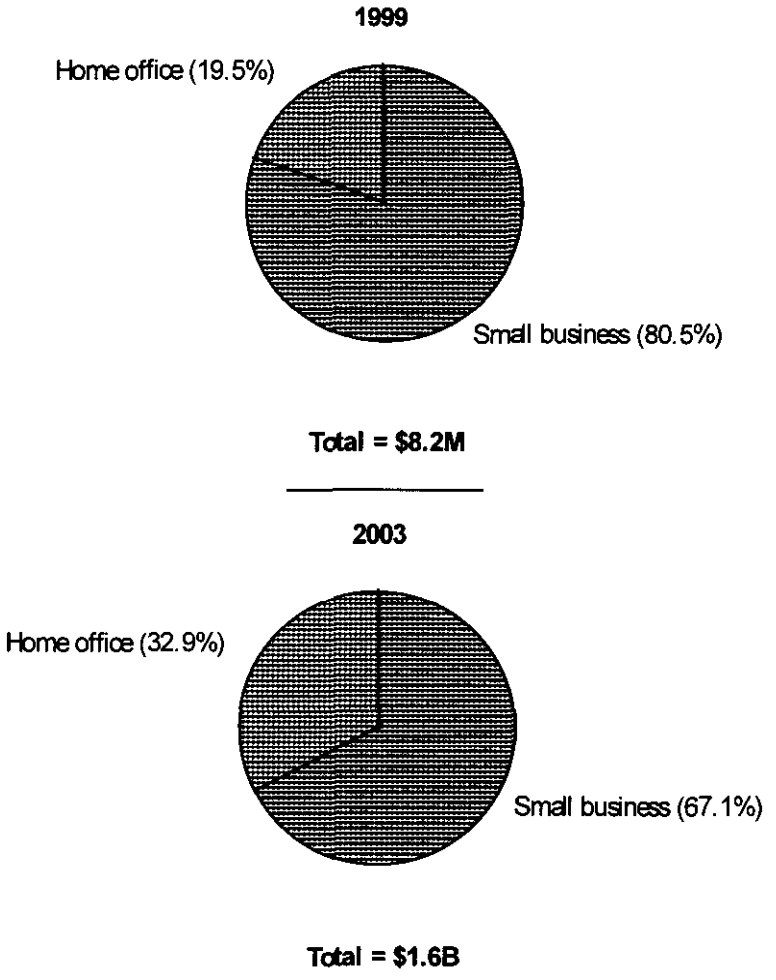
Messages in the Data:
- Starting at one-half of a percent in 1999, the share of home office first class postage represented by PC postage will grow to almost 8% in 2003.
- The growth of home office PC postage spending will be similar to that of small business PC spending, roughly doubling each year throughout the planning period.

Source: International Data Corporation, 1999

I believe that the largest share of PC postage revenue will come from small businesses, compared with home-based businesses, although the small business share will decline from about four-fifths initially to about two-thirds at the end of the planning period (see Figure 5). Although income-generating home offices are far more numerous (12.2 million versus 7.4 for small businesses), both the number of small businesses moving to PC postage and the average spending per company will be greater than that seen among home-based businesses.

Figure 5

U.S. Percentage of Spending on PC Postage, Small Business and Income-Generating Home Office, 1999 and 2003



Key Assumptions:

- U.S. economic growth rates will not change significantly.
- 1999 is the first year when PC postage is commercially available, beginning in August.
- PC postage estimates include spending of first class postage only. Overnight and parcel post package delivery are not included.

Messages in the Data:

- Spending by both small businesses and home offices on PC postage will roughly double each year through 2003.
- Because of lower initial sales, the relative share of home office PC postage spending will increase compared with small business PC spending over the planning period.

Source: International Data Corporation, 1999

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D. Small Business Attitudes Towards PC Postage

Small businesses are interested in the idea of PC postage, with more than one PC owner in 10 very or somewhat interested in the concept. Small businesses indicate the greatest interest in traditional postage solutions using the telephone to download postage to a meter. Using the Internet to download into a traditional postage meter is not cited as often as printing postage that had previously been downloaded from the Internet.

It should be noted that these interest measures were collected in what was essentially a concept test rather than as a precise comparison. Pricing was not associated with any of the solutions; just the general interest levels in the different concepts were measured. These baseline measures found that each of the different PC postage solutions generated relatively high interest. In other IDC survey work, new advanced technology solutions only generate interest from about 5% of respondents. Basic interest in PC postage, independent of the significant advertising investments already underway in 4Q99 and expected to increase in 1Q00, indicated a strong potential market for PC postage solutions.

Although PC postage represents an alternative to traditional postage meters, it is interesting to note that current meter users are more interested in PC postage than are users of any other technology, with a single exception — home page users are more likely than meter owners to be very interested in PC postage. These attitudes suggest

an opportunity for PC postage proponents to attract small businesses of all types – postage "novices" as well as those already using traditional mail systems.

II. The U.S. Small Business Survey of Current and Future Uses of PC Postage and Products

A. Highlights of the Methodology

The methodology used in the 1999 U.S. Small Business Survey can be summarized as follows:

- IDC contacted a representative sample of more than 3,500 small businesses by telephone using Dun & Bradstreet's database of U.S. small businesses as the sampling frame.

- IDC set proportions by five different size categories (based on total number of employees), geographic regions, and Standard Industrial Classification (SIC) codes to ensure that the sample was representative of the U.S. small business population. After a telephone screening, we mailed a color-coded 24-page questionnaire concerning current and future utilization of a variety of information technology products, services, and issues to the primary business/head-office location of small businesses that agreed to participate in the study. As an incentive, we mailed a gift catalog along with the questionnaire.

- IDC sought to obtain 1,000 completed questionnaires and exceeded this objective. Almost 56% of small businesses that were invited to respond to the questionnaire agreed to do so. Among those that agreed to respond, 30% returned the completed questionnaires.

- IDC weighted overall survey findings to reflect the representation of various size categories in the population. The weighting factor was based on each size category's proportion of the population.

B. Sampling Frame

Initially, IDC purchased a list of 10,000 small businesses from Dun & Bradstreet. We sorted the list to meet the following criteria:

- All listed small businesses had fewer than 100 full-time employees.
- All listed small businesses were within specified SIC codes.
- The data was nationally representative. We ensured representation by establishing sample quotas that corresponded to the proportion of small businesses in the general population by state, size, and SIC codes.
- The primary business/head-office location for each listing was included.

C. Data Collection/Incentives

IDC contacted more than 3,000 potential respondents by telephone during the 4Q98 and 1Q99. Each potential respondent was screened to confirm the following:

- The company employed fewer than 100 people.
- The company was not operated out of a home. (IDC tracks home-based businesses in its annual work-at-home survey.)
- Only the company's primary location/head office was used for data collection.

- The office manager, owner/president, or the individual who makes the decision to acquire telecommunications and other advanced technology was the primary respondent for the survey.

All qualified small businesses were invited to participate in the study and 55.6% agreed. We mailed questionnaires and incentive gift catalogs to these small businesses and asked small business executives to fill out the questionnaires, make their gift selections, and return both in the return envelopes. We sent a total of 3,500 questionnaire packets during this period.

After a period of three to five days, we made follow-up calls to confirm receipt of the questionnaire packets and encourage participation. We made up to three subsequent reminder calls if small businesses did not return the completed questionnaires within three weeks of the initial mailing.

We received a total of 1,043 questionnaires by the cutoff date. The response rate among small businesses that agreed to participate was 29.7%. Overall, the survey response rate was 16.5% (29.7% x 55.6%).

D. Weighting Factors

IDC weighted overall findings to reflect the actual distribution of small business size categories in the entire U.S. small business population. IDC used disproportionate sampling techniques in the survey so that the largest segment of small businesses, those with fewer than 10 employees, did not dominate the sample frame. By

oversampling larger firms, IDC was able to ensure that an analysis of results by company size would retain statistical validity. For example, IDC interviewed a total of 130 firms with 50–99 employees, rather than just 30 firms, which would have been the appropriate number if the sample was strictly proportional to the way companies are distributed by size.

Table 1 shows the percentage of small businesses in the total population and the percentages in IDC's sample. In order to correctly calculate survey results for the total population and for different subgroups, like vertical markets and PC owners, respondents were weighted in accordance with their relative number in the total population.

Table 1
U.S. Small Business Survey Sample Size, Relative Share, and Survey Weights by Company Size, 1999

	Number of Respondents	Relative Share (%)	Population Share (%)	Respondent Weighting
Under 5	426	40.8	56.3	1.3781
5–9	178	17.1	20.3	1.1914
10–19	138	13.2	12.6	0.9552
20–49	171	16.4	7.9	0.4801
50–99	130	12.5	2.9	0.2304
Total	1,043	100.0	100.0	NA

Note: Oversampling of firms with 10+ employees permits greater reliability in breakouts by company size.
Source: International Data Corporation, 1999

E. Margin of Error

Given the sample size of 1,043 small businesses, the margin of error for IDC's 1999 U.S. Small Business Survey was ±3.0% at a 95% confidence level. Note that some numbers in the tables and figures in this report may not be exact due to rounding.

III. Small Business PC Postage Forecast

IDC's forecast for PC postage is built on two key building blocks:

- The number of small businesses with personal computers and Internet access, and how that will be growing over time
- Annual small business spending on postage and the percentage of postage that will be associated with new Internet-based solutions

Other market opportunities for PC postage are discussed in this section. Home office operators will likely be interested in PC postage, and the size and nature of the home office market is examined. In addition to first class postage, which will be associated with the largest share of PC postage revenue, there will also be revenue from overnight delivery and ground delivery services. Additional service revenue related to supplies and other services will represent other sources of income for firms providing PC postage capabilities.

A. Small Business and Home Office PC and Internet Forecast

Three sets of forecasts serve as a foundation for estimating the potential size of the PC postage market: the total number of small businesses, the number of firms with personal computers, and the number of firms on the Internet. While all small businesses can potentially be interested in PC postage, only those with Internet access will be able to act on their interests.

Table 2 presents the forecast of the total number of small businesses through 2003. The total number of small firms, those with under 100 employees, will be growing by 2.0% annually, from almost 7.4 million in 1998 to almost 8.2 million in 2003.

The number of small businesses with PCs will be growing even faster by 3.6% annually from almost 6.3 million in 1998 to just under 7.5 million in 2003 (see Table 3). PC penetration of small businesses will grow from the already high level of 85.1% at the end of 1998 to 91.7% in 2003, as Table 4 indicates. Although lower PC prices have certainly encouraged small businesses to add more PCs in recent years, IDC believes that new applications have been the key to expanding small business PC penetration. The use of the Internet for both communications and expanding prospect and customer interaction have both been of interest to small businesses that had previously chosen not to make use of personal computers.

Related to this Internet interest is the significant growth in the number of small businesses going online. The percentage of small business PC owners with Internet access was about 25% in 1996, but at the end of 1998 had reached 61.5%. By the end of 2003, the percentage is expected to reach 79.3% (see Table 5 and Table 6). This change means that the number of online small businesses will have grown from less than 3.9 million in 1998 to over 5.9 million in 2003, an annual increase of 9.0%. This group will be the primary market for PC postage.

Table 2 U.S. Small Business Universe by Company Size, 1998–2003 (000)							
	1998	1999	2000	2001	2002	2003	1998–2003 CAGR (%)
Under 5	4,155	4,229	4,305	4,382	4,465	4,556	1.9
5–9	1,501	1,545	1,591	1,638	1,686	1,720	2.8
10–19	933	952	971	992	1,011	1,032	2.0
20–49	581	592	603	615	627	640	2.0
50–99	212	213	214	215	216	217	0.5
Total	7,382	7,531	7,684	7,842	8,005	8,165	2.0

Key Assumptions:
- Small business formation continues at the present rate as U.S. economic growth continues with only minor fluctuation.
- Population growth will be greatest among firms with 5–9 employees.

Messages in the Data:
- Small business formation continues to exceed total business growth throughout the forecast period.
- The net number of smaller businesses will grow at a faster rate than the number of firms with 50–99 employees despite higher mortality rates.

Source: International Data Corporation, 1999

Table 3
U.S. Small Businesses with PCs by Company Size, 1998–2003 (000)

	1998	1999	2000	2001	2002	2003	1998–2003 CAGR (%)
Under 5	3,356	3,523	3,651	3,777	3,911	4,050	3.8
5–9	1,320	1,389	1,451	1,514	1,575	1,617	4.1
10–19	856	882	908	935	961	989	2.9
20–49	548	562	576	590	604	618	2.4
50–99	202	204	206	207	209	211	0.9
Total	6,282	6,559	6,791	7,024	7,260	7,485	3.6

Key Assumptions:

- Small business formation will continue at the present rate, and the largest share of new businesses will add PCs.
- The smallest of small firms, with under 5 employees, will continue to lag behind other firms in using PCs.
- Growth in PC penetration will be fueled by lower prices, increasing ease of use, and perceived benefits of the Internet.

Messages in the Data:

- Year-to-year growth in PC penetration is slowing as firms approach saturation.
- Nine out of 10 small businesses will have at least one PC by the end of the planning period.

Source: International Data Corporation, 1999

Table 4
U.S. Small Business PC Penetration by Company Size, 1998–2003 (%)

	1998	1999	2000	2001	2002	2003
Under 5	80.8	83.3	84.8	86.2	87.6	88.9
5–9	87.9	89.9	91.2	92.4	93.4	94.0
10–19	91.7	92.6	93.5	94.3	95.1	95.8
20–49	94.4	95.0	95.5	95.9	96.3	96.6
50–99	95.1	95.6	96.1	96.5	96.8	97.1
Total	85.1	87.1	88.4	89.6	90.7	91.7

Key Assumptions:
- Small business formation will continue at the present rate, and the largest share of new businesses will add PCs.
- The smallest of small firms, with under 5 employees, will continue to lag behind other firms in using PCs.
- Growth in PC penetration will be fueled by lower prices, increasing ease of use, and perceived benefits of the Internet.

Messages in the Data:
- Year-to-year growth in PC penetration is slowing as firms approach saturation.
- Nine out of 10 small businesses will have at least one PC by the end of the planning period.

Source: International Data Corporation, 1999

Table 5 U.S. Small Business Internet Penetration by Company Size, 1998–2003 (% of PC Establishments)						
	1998	1999	2000	2001	2002	2003
Under 5	58.6	62.4	65.8	69.7	73.3	76.9
5–9	61.0	64.8	68.7	71.0	75.8	78.6
10–19	65.2	70.1	73.1	76.8	79.1	82.3
20–49	69.8	73.5	78.6	82.5	85.2	88.2
50–99	74.8	78.9	82.4	85.6	88.9	90.1
Total	61.5	65.4	69.0	72.5	76.0	79.3

Key Assumptions:

- Small business interest in using the Internet will increase for a variety of applications.
- More retailers, traditionally the slowest to adopt new technology, will be interested in using PCs and the Internet.
- Lower cost of broadband access will increase small business interest in the Internet for different applications.

Messages in the Data:

- The rapid ramp-up of Internet adoption will slow as almost all who can benefit from the Internet sign on.
- Like fax machines, the Internet is becoming a standard business communications tool for even the smallest firms.

Source: International Data Corporation, 1999

Table 6
U.S. Small Business Internet Establishments by Company Size, 1998–2003 (000)

	1998	1999	2000	2001	2002	2003	1998–2003 CAGR (%)
Under 5	1,967	2,198	2,402	2,633	2,867	3,115	9.6
5–9	805	900	997	1,075	1,194	1,271	9.6
10–19	558	618	664	718	761	814	7.8
20–49	383	413	453	487	514	545	7.3
50–99	151	161	169	178	186	190	4.7
Total	3,863	4,290	4,685	5,090	5,521	5,934	9.0

Key Assumptions:

- Small business interest in using the Internet will increase for a variety of applications.
- More retailers, traditionally the slowest to adopt new technology, will be interested in using PCs and the Internet.
- Lower cost of broadband access will increase small business interest in the Internet for different applications.

Messages in the Data:

- The rapid ramp-up of Internet adoption will slow as almost all who can benefit from the Internet sign on.
- Like fax machines, the Internet is becoming a standard business communications tool for even the smallest firms.

Source: International Data Corporation, 1999

Table 7 summarizes the growth in primary-income-generating home office households, the other major target market for PC postage. The total number of households with an income-generating home office, where at least one person works full time, is growing by 8.9% annually, from 14.3 million in 1998 to 21.9 million in 2003.

The number of these households with at least one PC is growing by 12.3% annually, from 10.0 million in 1998 to 17.8 million in 2003. PC penetration in these home office households follows just behind that seen for the smallest small businesses.

Home office Internet adoption follows a pattern similar to the one seen among small businesses. While only about one-quarter of home office PC households had Internet access two years ago, the percentage is now approaching 60%, with more than three-fourths of PC owners forecast to have Internet access at the end of the planning period. The number of primary-income-generating home office households on the Internet will be growing by 19.5% annually from 5.6 million in 1998 to 13.7 million in 2003. When combined with 5.9 million small business Internet users expected in 2003, this means the potential small office/home office (SOHO) prospect pool for PC postage will reach 19.6 million.

Table 7
U.S. Primary-Income-Generating Home Office Households, PC Households, and Internet Households, 1998–2003 (000)

	1998	1999	2000	2001	2002	2003	1998–2003 CAGR (%)
Home office households	14.3	15.5	16.7	18.1	20.6	21.9	8.9
PC households	10.0	11.1	12.3	13.8	16.3	17.8	12.3
Internet households	5.6	6.5	7.7	9.5	11.8	13.7	19.5

Key Assumptions:
- U.S. economic growth rates will not change significantly.
- Economic conditions and tax law changes will foster home-based business establishment.

Messages in the Data:
- Growth in primary self-employment will exceed that of any small business size segment.
- By 2002, the number of primary-income-generating home offices will have grown 53% over 1998. Almost one household in five will include a full-time worker in a home-based business and will be important prospects for PC postage.

Source: International Data Corporation, 1999

B. Annual Small Business and Home Office Postage Spending

In preparing forecasts for the PC postage market, IDC has focused on small businesses as the most important customer segment. It is also useful to examine the home office market as well. Although home-based businesses will not represent the majority of PC postage customers and will not account for the largest share of PC postage spending, they still represent an important source of revenue for industry participants and are therefore included in IDC's market estimates. In addition, spending on package delivery through the USPS — such as Priority Mail or Express Mail — will provide additional revenue to providers of PC postage. IDC believes that private carriers like UPS, FedEx, Airborne, DHL, and others will be interested in integrating their own solutions with those provided through PC postage. Such approaches will be part of integrated delivery programs, although the revenue associated with these programs are not included in the forecasts provided in this report, especially since the heart of PC postage, the IBIP standard previously discussed, is not presently a part of private-carrier overnight solutions.

As Table 8 indicates, small business spending on first class postage will grow by 6.9% annually from $6.7 billion in 1998 and $7.2 billion in 1999 to over $9.4 billion in 2003. At the same time, spending on first class postage by primary-income-generating home office households will increase by 7.4% annually, from $4.8 billion in 1998 and $5.2 billion in 1999 to $6.9 billion in 2003 (see Table 9).

Table 8
U.S. Small Business Spending on PC Postage, 1999–2003

	1999	2000	2001	2002	2003	1999–2003 CAGR (%)
Total ($M)	6.6	212.0	435.9	741.9	1,095.3	258.9
Share of total first class spending (%)	0.1	2.8	5.3	8.4	11.6	NA

Key Assumptions:
- U.S. economic growth rates will not change significantly.
- 1999 is the first year when PC postage is commercially available, beginning in August.
- PC postage estimates include spending of first class postage only; overnight and parcel post package delivery are not included.

Messages in the Data:
- The share of small business first class postage represented by PC postage, starting at one-tenth of a percent in 1999, will grow to almost 12% in 2003.
- Spending on first class PC postage will roughly double each year throughout the planning period, although this growth will begin to decrease after 2002.

Source: International Data Corporation, 1999

Table 9
U.S. Income-Generating Home Office Spending on PC Postage, 1999–2003

	1999	2000	2001	2002	2003	1999–2003 CAGR (%)
Total ($M)	1.6	80.8	178.0	327.1	537.0	28.0
Share of total first class spending (%)	0.0	1.4	3.0	5.1	7.8	NA

Key Assumptions:
- U.S. economic growth rates will not change significantly.
- 1999 is the first year when PC postage is commercially available, beginning in August.
- PC postage estimates include spending of first class postage only; overnight and parcel post package delivery are not included.

Messages in the Data:
- Starting at one-half of a percent in 1999, the share of home office first class postage represented by PC postage will grow to almost 8% in 2003.
- The growth of home office PC postage spending will be similar to that of small business PC spending, roughly doubling each year throughout the planning period.

Source: International Data Corporation, 1999

C. PC Postage Revenue

The USPS gave the official start to PC postage in August, 1999, with approval for national rollout given to E-Stamp and Stamps.com after an extensive period of testing. Postage revenue for 1999 represents acquisition of PC postage hardware and postage. Not all the postage sold will be used in the quarter, although IDC's estimates are based on the postage sold, rather than the postage used (essentially the way postage meter revenue and stamp revenue can also be considered).

Total spending on PC postage will be growing by 275.6% annually, as Table 10 indicates. From the start-up year of 1999, when total PC postage spending (equipment plus postage) will reach $8.2 million, annual spending will grow by a factor of roughly 200 to reach $1.6 billion in 2003. IDC believes that PC postage will come to represent over 10% of total postage spending by small businesses and income-generating home offices. Revenue related to ground and overnight package delivery (specifically priority mail) will represent an additional opportunity for industry participants.

IDC believes that the largest share of PC postage revenue will come from small businesses, compared with home-based businesses, although the small business share will decline from about four-fifths initially to about two-thirds at the end of the planning period. Small business spending on PC postage will increase by 258.9% annually from $6.6 million in 1999 to $1,095.3 million in 2003. Spending by primary-income-generating

home offices will increase even more rapidly, by 328.0% annually, from $1.6 million in 1999 to $537.0 million in 2003

Table 10
U.S. Small Business and Income-Generating Home Office Spending on PC Postage, 1999–2003 ($M)

	1999	2000	2001	2002	2003	1999–2003 CAGR (%)
Small business PC postage spending	6.6	212.0	435.9	741.9	1,095.3	258.9
Home office PC postage spending	1.6	80.8	178.0	327.1	537.0	328.0
Total	8.2	292.8	613.9	1,069.0	1,632.3	275.6
Share of total first class spending (%)	0.1	2.2	4.3	7.0	10.0	NA

Key Assumptions:
- U.S. economic growth rates will not change significantly.
- 1999 is the first year when PC postage is commercially available, beginning in August.
- PC postage estimates include spending of first class postage only; overnight and parcel post package delivery are not included.

Messages in the Data:
- Starting at one-half of a percent in 1999, the share of home office first class postage represented by PC postage will grow to almost 8% in 2003.
- The growth of home office PC postage spending will be similar to that of small business PC spending, roughly doubling each year throughout the planning period.

Source: International Data Corporation, 1999

The growth rates in PC postage spending are especially high because the base year of 1999 represented less than four months of sales and the beginning of active promotion. While first class postage will represent the heart of PC postage spending, it should also be noted that USPS spending for overnight express mail, second day, and parcel-post packages will represent additional revenue opportunities.

IV. Small Business Use of Postage and Mail Equipment

A. Postage Equipment Use and Acquisition Plans

Small businesses vary in their use of basic postage equipment — postage meters and scales. Because the largest share of meters is leased rather than owned, the up-front costs of ownership are not prohibitive. However, with lease costs of $20–40 per month in addition to postage, refilling, and ink supplies, the continuing expense of postage equipment can be prohibitive to small businesses.

As Table 11 indicates, just over one-quarter of all small businesses have a postage meter and scale. Meter use grows dramatically with company size, from less than 15% of firms with under five employees to 77.7% of firms with 50–99 employees. The use of scales tracks very closely with the use of meters, although actually falls below meter use in larger firms — most likely, the result of scales being incorporated in more advanced postage equipment.

Table 11
U.S. Small Business Use of Postage Meters and Scales by Company Size, 1999 (%)

		Number of Employees				
	Total	Under 5	5–9	10–19	20–49	50–99
Have postage meter	28.3	14.8	35.4	44.2	62.6	77.7
Have postage scale	26.5	15.0	34.3	39.1	51.5	70.8

N = 1,043
Source: IDC's *Small Business Survey,* 1999

The use of postage meters is associated with the use of more advanced technology in general, as Table 12 indicates. The majority of those with LANs (55.7%) and almost half of those with a home page (48.8%) use postage meters, which would be in keeping with the higher level of mail volume associated with these firms. Table 13 describes plans to add different postage equipment by small businesses of different sizes.

Table 12
U.S. Small Business Use of Postage Meters and Scales by Technology Users, 1999 (%)

	Total	PC Users	LAN Uses	Internet Users	Have Home Page
Have postage meter	28.3	30.4	55.7	33.6	48.8
Have postage scale	26.5	28.7	55.1	33.1	49.0

N = 1,043
Source: IDC's *Small Business Survey,* 1999

Table 13
U.S. Small Business Plans to Add Postage Meters by Company Size, 1999 (%)

		Number of Employees				
	Total	Under 5	5–9	10–19	20–49	50–99
Current meter user	1.7	1.6	1.6	1.6	1.9	2.0
Current meter non-user	5.1	4.7	5.2	6.5	4.7	20.7
Total	4.1	4.2	3.9	4.3	2.9	6.2

N = 1,043
Source: IDC's *Small Business Survey,* 1999

B. Interest in Different Meter and PC Postage Solutions

PC Postage Interest by Company Size

IDC tested a variety of traditional and PC postage concepts to assess general interest in different approaches. Only the most basic descriptions of different approaches were provided, with the goal of developing an assessment of the general appeal of alternative solutions. As specific program details are refined, interest will increase or decrease depending on how effectively issues like cost and implementation are addressed. The use of a four-point scale of interest (very interested, somewhat interested, slightly interested, or not at all interested) provides a basic measure of technology appeal that can be compared across different small business segments.

The first postage solution tested was the traditional postage meter that is refilled by telephone. This solution was of greatest interest to small firms regardless of company size, as Table 14 indicates. Interest is greatest among larger firms, and smallest among smaller ones. Refilling the meter by phone was stronger than via the Internet, although interest increased with company size. Connecting by phone and implicitly by PC and modem was generally more appealing than using the Internet. For some small businesses, Internet-based postage solutions will not automatically be perceived as superior.

Table 14
U.S. Small Business Interest in Different PC Postage Alternatives by Company Size, 1999 (%)

		Number of Employees				
	Total	Under 5	5–9	10–19	20–49	50–99
Traditional meter, refill by phone						
Very interested	12.8	8.5	15.2	19.7	17.9	26.8
Somewhat interested	10.9	6.6	13.4	15.2	17.3	32.5
Total	23.7	15.1	28.6	34.9	35.2	59.3
Traditional meter, refill by Internet						
Very interested	6.4	3.8	6.7	9.1	14.8	14.6
Somewhat interested	10.8	5.5	15.2	18.2	16.7	25.2
Total	17.2	9.3	21.9	27.3	31.5	39.8
PC postage – any type						
Very interested	9.5	8.0	9.8	12.1	14.8	8.1
Somewhat interested	15.7	13.7	17.7	15.9	19.1	25.2
Total	25.2	21.7	27.5	28.0	33.9	33.3

N (PC owners) = 949

Source: IDC's *Small Business Survey,* 1999

PC Postage solutions, which involve postage delivered over the Internet to a PC and printer, is more appealing to firms with under 50 employees than refilling meters over the Internet. As firms increase in size PC postage solutions become less attractive, although interest remains competitive with other approaches in firms with under 50 employees, Firms with 50-99 employees are more interested in traditional meters filled via telephone and in traditional meters refilled over the Internet.

Small firms with postage meters generally prefer refilling their meters via the Internet than using PC postage, as Table 15 indicates. This preference is greatest among firms with under 5 employees and with 50-99 employees. The percentages of firms with 5-49 employees very interested in either technology were similar, suggesting a willingness to consider alternative postage solutions despite having already invested in traditional meters.

Table 15
U.S. Small Business Interest in PC Postage,
Postage Meter User Versus Non-User, 1999 (% of PC Owners)

		Number of Employees				
	Total	Under 5	5–9	10–19	20–49	50–99
Postage meter users (N = 283)						
Traditional meter, refill by Internet						
Very interested	16.2	15.0	15.0	15.3	20.2	17.5
Somewhat interested	19.5	11.7	20.0	23.7	23.1	27.8
Total	35.7	26.7	35.0	39.0	43.3	45.3
PC postage – any type						
Very interested	14.6	10.0	18.3	15.3	19.2	8.2
Somewhat interested	22.4	16.7	28.3	20.3	25.0	23.7
Total	37.0	26.7	46.6	35.6	44.2	31.9
Postage meter non-users (N = 661)						
Traditional meter, refill by Internet						
Very interested	2.1	1.6	1.9	4.1	5.2	3.8
Somewhat interested	7.0	4.3	12.5	13.7	5.2	15.4
Total	9.1	5.9	14.4	17.8	10.4	19.2
PC postage – any type						
Very interested	7.2	7.6	4.8	9.6	6.9	7.7
Somewhat interested	12.7	13.2	11.5	12.3	8.6	30.8
Total	19.9	20.8	16.3	21.9	15.5	38.5

Source: IDC's *Small Business Survey,* 1999

PC Postage Interest by Technology Use

Interest in PC postage solutions also varies by the use of other technologies, as Table 16 indicates. Small businesses with LANs show the highest interest in using a traditional meter refilled by phone. Both small business Internet users and home-page users also prefer traditional meters refilled by phone, although the balance shifts in favor of PC postage solutions when the percentages include those both very and somewhat interested. Small business Internet users will be the prime prospects for PC postage, and home page users will also be key, given the large percentage of small businesses with home pages that are very interested in PC postage.

Table 16
U.S. Small Business Interest PC Postage by Technology Use, 1999 (%)

	PC Users	LAN Users	Internet Users	Have Home Page
Traditional meter, refill by phone				
Very interested	12.8	22.1	12.9	18.9
Somewhat interested	10.9	14.7	12.6	14.6
Total	23.7	36.8	25.5	33.5
Traditional meter, refill by Internet				
Very interested	6.4	14.3	8.7	13.9
Somewhat interested	10.8	14.1	12.7	14.6
Total	17.2	28.4	21.4	28.5
PC postage – any type				
Very interested	9.5	13.8	12.8	16.1
Somewhat interested	15.7	22.5	18.2	21.2
Total	25.2	36.3	31.0	37.3

N (PC owners) = 949
Notes:
Home page users are generally more interested in any technology alternative.
Internet users are generally more interested than total PC owners in any of the Internet-related postage solutions, but phone refill of meter still cited most often.
Source: IDC's *Small Business Survey,* 1999

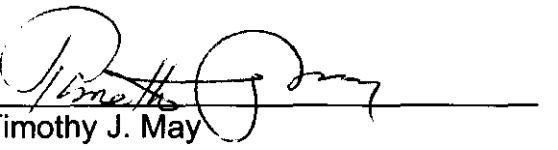
V. The U.S. Postal Service's Role as Regulator and Advocate

A unique attribute associated with this market is the role of the USPS. The careful deliberation and testing of new technology is unlike anything to be found elsewhere in the high-technology community (with the possible exception of the pharmaceutical industry). The lengthy beta testing associated with E-Stamp's and Stamps.com's programs is simply not a part of the thinking in Internet companies. In addition to being something of a gatekeeper and umpire in fully vetting new technology, the USPS also serves as a cheerleader, actively encouraging new technology. Sometimes these two missions can be in conflict — the more cautious side of the house is generally triumphant, although the role of industry supporter will continue to be important.

Internet postage can play an important part in helping the Postal Service to move more mail more efficiently. IDC believes that this factor has been important in the relatively fast (for the Post Office) approval time for PC postage. PC postage also benefits the USPS by bringing advanced mailing capabilities to smaller firms, which can be expected to make greater use of the mail. The USPS also benefits from the ZIP code checking capability that PC postage provides. (While large mailers receive discounts by helping the USPS sort the mail, so far the same is not true for small businesses that, individually, may not qualify for discounted mailing rates.)

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon all participants of record in this proceeding in accordance with Section 12 of the Rules of Practice.



Timothy J. May

Dated: May 22, 2000