

**Wideband Community Network
Market Assessment Report
Business Survey**

Preliminary

Prepared for:

The Wideband Community Network Committee

And

Los Alamos County

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BUSINESS SURVEY

Objective

The objective of the Business Survey is to assess the current and future telecommunication needs of the business community.

METHODOLOGY

The Sample

A total of 410 questionnaires were sent to a stratified sample of randomly selected businesses. The businesses were drawn from the universe of Los Alamos County active business permits. The universe was stratified according to the business type listed on the permit. Results of the stratified sampling are:

Business Segment	Total Population	Sample Ratio	Sample Size	Questionnaires Returned
Professional Svcs.	170	1 out of 4	43	12
Service	93	1 out of 3	31	3
Wholesale	13	all	13	3
Entertain. & Tour.	78	1 out of 4	20	4
Automotive	24	1 out of 3	8	3
R & D	48	all	48	11
Financial Svcs	61	1 out of 2	31	6
Not for Profit	10	all	10	1
Child Care	25	1 out of 3	9	2
Construction/Trades	109	1 out of 4	28	3
Computer	14	all	14	4
Retail	138	1 out of 4	35	6
Consulting/Tech.	203	1 out of 6	34	14
Manufacturing	44	all	44	10
Other	83	1 out of 2	42	4
Total	1113		410	86

The Statistics

The results represent the entire universe of Los Alamos business and the business segments. The sample results were scaled to represent the total universe of businesses. Scaling involved expanding the segmented responses to represent the entire segment. As an example, the results of the Professional Services segment were multiplied by 4 to represent all businesses in the segment. Statistics, such as: averages, distributions and

means, were calculated on the universe, sectors and segments to best characterize the data.

The sample size provides a data reliability of 95%. This means that there is 95% certainty that the actual business population of Los Alamos falls within $\pm 2\frac{1}{2}\%$ of the results. The confidence intervals reported are at the 0.05 level of significance. This means that the data is accurate $\pm 2\frac{1}{2}\%$, 95% of the time. If the confidence interval is larger than 0.05 for a specific question then the confidence intervals are displayed with the data.

Sector and segment statistics are shown to help explain the overall behavior of the universe. However, the reliability and confidence intervals for the segment data is poor because of the low number of responses for each segment and should not be used except as an aide in understanding and interpreting the data and in characterizing the business universe.

Many questions asked for projections to the year 2001. Generally between 1/3 and 2/3 of the respondents provided information for 2001, depending on the difficulty of the question. The reduced sample size for the year 2001 responses makes segment specific data even less reliable. However, the overall results for 2001 responses are 95% reliable, with a confidence interval of $\pm 2\frac{1}{2}\%$.

Business Sector and Segments

Analysis of the survey results indicates that Los Alamos businesses tend to fall into 2 distinct sectors (or clusters). This is very helpful for understanding the results, since only 2 sectors need to be considered, rather than the full 15 business segments. 10 of the segments were combined to form a Services sector and the other 5 segments were combined to form a Technology sector. The Technology sector is focused on serving global customers with high technology, forecasts rapid growth and shows a high dependency on telecommunications and computers. The Technology Sector represents 370 businesses. The Services sector is generally focused on serving Los Alamos customers with low-tech services and forms the services infrastructure of Los Alamos. The Services sector generally has less dependence on telecommunications and computers, and is forecasting a slower adoption rate of new technologies than the Technology sector. Of course some businesses have characteristics of both services and technology, e.g. Wholesale and Professional Services. The sectors are defined as follows:

Services Sector	Technology Sector
Professional Services	R&D
Service & Not for Profit	Financial Services
Retail & Wholesale	Consulting and Technical
Entertainment and Tourism	Computer
Automotive & Child Care	Manufacturing
Construction and Trades	
Not for Profit & Other	

In this report each of the survey questions are analysed by:

- Total of all businesses
- By Business Sector (Technology and Services)
- By Business Segment (15 different business types)

By examining the results for each question the reader will see that the data is generally consistent and the results pass a reasonableness test.

SUMMARY AND FINDINGS

Business Location and Proficiency

61% of the businesses are operated from a home office while 50% of the businesses are located in a home. All segments indicated substantial numbers of businesses in home, except for the Not for Profit segment. See questions 1 & 2.

56% of the respondents indicate proficiency with telecommunications and networking applications. The remaining 44% will need help in this area. High proficiency was generally associated with the technical segments e.g. Computer 100%, R&D, 91% and low proficiency was generally associated with segments that do not involve computers, e.g. Childcare. 44% of the businesses indicated a low proficiency, possibly indicating the need for additional training programs. As an example 2/3 of the Wholesales indicated a high proficiency, while 1/3 indicated a low proficiency. See question 3.

Sales and Customers

Businesses report that 2/3 of their sales are the result of walk-ins, personal contact, reputation, existing customer base, word of mouth, etc. The Service Sector is heavily reliant on the personal or face-to-face way of generating sales. Only 1/3 of the sales comes from telephone, faxes, distributors, Internet and faxes. The Technology Sector is heavily dependent on the telephone, fax, distributors and Internet to generate sales. See question 4.

66% of the customers are located in Los Alamos, while only 11% are located in North Central New Mexico (NCNM). 23% are located outside of NCNM. The Technology sector tends to focus on Los Alamos (LANL) as well as USA and global customers. R&D and Consulting and Technical lead the way on a global focus. The Services sector tends to focus primarily on Los Alamos. See question 5.

When asked, "Where will you focus for new customers?" the Technology Sector said they will look about evenly at Los Alamos, North Central New Mexico, USA and Global. While the Services sector will focus first on Los Alamos, second North Central New Mexico, etc. See question 6.

The Workplace

The median business has 2 people, the owner and one employee. Businesses are forecasting substantial growth by the year 2001. See question 7. (Analysis of this question is not yet complete)

Almost 3/4ths of the employees telecommute today. The number will triple for the Technology Sector by 2001. The Services Sector is forecasting no growth in this area. See question 8.

The Technology Sector is forecasting a 100% growth in travel by the year 2001. Compared to an 81% increase for the Services Sector. See question 9.

Businesses are forecasting substantial growth for employees located outside Los Alamos. The financial segment is the leader with 432% growth. Professional, Consulting and Technical and Construction are also forecasting substantial growth. See question 10.

Telephone Equipment and Lines

Los Alamos business is forecasting a 50% growth in telephone lines by the 2001. See question 11 & 14.

Likewise, the number of fax machines will increase by about 50% by 2001. Most of the fax machine growth will be in the Services Sector. See question 12.

There will be about a 15% growth in Point of Sale Terminals by 2001. The Service Sector accounts for almost all of this growth. See question 13.

The Internet, Computers and Network Equipment

91% of businesses either use or plan to use computers or networking equipment. The Technology Sector reports 98%. See question 16.

The number of computers used in business will double by 2001. This forecast is uniform for both Sectors. See question 17. Likewise the forecast of network devices (servers, routers, hubs, etc.) is also forecast to double by 2001. See question 18.

Wide Area Networking will grow quickly in both Sectors. The Technology Sector will lead the way with almost 50 times more WAN terminals than the Services Sector. The Consulting and Technical Segment is leading the way with high volume and fast growth. See question 19.

54% of all businesses use the Internet for networking. The Technology Sector uses 82%. See question 20.

79% of businesses use or plan to use the Internet, with 92% in the Technology Sector. See question 21.

Businesses expect to be purchasing 30% of their products and supplies from the Internet by 2001, compared to 10% today. See question 22.

Businesses expect 20% of their total sales will come from the Internet by 2001, compared to 15% today. The Technology Sector expects 44% to come from the Internet by 2001. While the Services Sector remains static. See question 23 and 36.

Businesses expect 30% of their sales leads to come from the Internet by 2001, compared to 15% today. The Technology Sector expects 42% to come from the Internet by 2001. See question 24.

Businesses expect the number of web pages per web site to double by 2001, while the Technology Sector expects the number to triple. See question 25.

Businesses expect a 5-fold increase in the number of emails and web hits (or site visits) by 2001, with the vast majority of the emails and hits going to the Technology. See question 26 and 27.

Businesses expect a 50-fold increase by 2001 in sending and receiving files and data, with the vast majority going and originating from the Technology Sector. See question 28.

Businesses expect their employees will have almost a 10-fold increase in the number of hours spend on the Internet by 2001. The Technology Sector expects almost a 14-fold increase. See question 29.

The Technology Sector forecasts reducing the number of low speed data lines, while the Services Sector is forecasting a 50% increase. See question 31. Both Sectors are forecasting about an 80% increase in dial-up modem lines. See question 32. While, businesses are forecasting a 5-fold increase in the number of high-speed lines. See question 33.

67% of businesses ranked Reliability as the Most Important aspect of Telecommunications. This result was fairly consistent across all Sectors and Segments. See question 34.

Businesses rated electronic mail, Internet sales, electronic financial services and high-speed data transfer as being extremely important or important or somewhat important. The Technology Sector also put electronic purchasing and communications with LANL in this category. See question 35.

DETAILED RESULTS

Business Location & Operation

1. *Is this your: Headquarters, Branch Office, or Home Office?*

Office	Percentage
branch	8.0%
headquarters	42.0%
home	50.0%

Sector Analysis:

Sectors	Branch	Headquarters	Home Office
Technology	12%	27%	61%
Service	5%	55%	40%

Segment Analysis:

Branch Offices	Percentage*
Wholesale	67%
Construc/Trades	33%
Computers	25%
R & D	18%
Consult/Tech	14%
Remaining Segments	0%
Average	8%

Home Offices	Percentage*
Consult/Tech	64%
Financial Svcs	60%
Enter & Tourism	50%
Childcare	50%
Manufacturing	50%
Other	50%
R & D	46%
Professional Svcs	42%
Construc/Trades	33%
Retail	33%
Service	33%
Wholesale	33%
Computer	25%
Not For Profit	0%
Automotive	0%
Average	50%

Headqtrs	Percentage*
Not For Profit	100%
Automotive	100%
Retail	67%
Service	67%
Professional Svc	58%
Childcare	50%
Enter & Tourism	50%
Computers	50%
Manufacturing	50%
Other	50%
Financial Svcs	40%
R & D	36%
Construc/Trades	33%
Consult/Tech	22%
Wholesale	0%
Average	42%

*Percentages in each column do not add to 100%. However, percentages for a specific category across the 3 tables do add to 100%, e.g. Wholesale, 67% branch offices, 33% home offices, and 0% headquarters.

2. Do you operate your business out of your home?

Home	Percentage
Yes	61.0%
No	39.0%

Sector Analysis

Home Office	Percentage
Technology	79%
Service	46%

Segment Analysis

Home Office	Percentage
Other*	100%
Financial Svcs.	80%
Consult/Tech	64%
Manufacturing	63%
R&D	55%
Enter & Tourism	50%
Childcare	50%
Retail	50%
Service	50%
Professional Svc	36%
Automotive	33%
Constr/Trades	33%
Wholesale	33%
Computer	25%
Not for Profit	0%
Average	48%

*Businesses listed under the "Other" business segment include

Knowledge of Telecommunication & Network Applications

3. How knowledgeable do you consider yourself in telecommunications and network applications?

Knowledge	Percentage
High	22.5%
Med-High	33.0%
Med-Low	35.5%
Low	9.0%

Note: High= "very well informed and knowledgeable"
Med-High= "somewhat well informed and knowledgeable"
Med-Low= "just enough information for my needs"
Low= "not enough information/dependent on others"

Sector Analysis

Sector	High	Med-High	Med-Low	Low
Technology	36%	32%	30%	2%
Service	9.4%	34.2%	41%	15.4%

Segment Analysis

Examination of the business segments revealed the following:

Knowledge Level	
High/Med-High	Low/Med-Low
Automotive (100%)	Childcare (100%)
Computer (100%)	Not for Profit (100%)
Contr/Trades (100%)	Retail (100%)
R & D (91%)	Service (100%)
Entertain/Tourism (75%)	Other (67%)
Consult/Tech (69%)	Profess Svcs (67%)
Wholesale (67%)	Finan Svcs (50%)
Manufacturing (78%)	Wholesale (33%)
Other (33%)	Consult/Tech (31%)
Professional Svcs (33%)	Enter & Tourism (25%)
	Manufacturing (22%)
	R & D (9%)

Generation of Sales

4. How are your current Los Alamos sales generated?

Type of Sale	Percentage
Other*	40%
Walk-In	26%
Telephone	17%
Distributors	8%
Internet	8%
Fax	1%

“Other” consists primarily of contracts, as well as word of mouth, reputation, and an established customer base. It is likely that most of the contracts are with Los Alamos National Laboratory, since this is the major contractor in the area.

Business Sectors

Bus	Other		Walk-In		Phone		Distri.		Inter.		Fax	
Sector	% Sec	% Sales	% Sect	Sales	% Sec	% Sales	% Sec	Sales	% Sec	Sales	% Sec	Sales
Tech	51%	0%	86.5%	0%	57.3%	0%	71%	0%	74%	0%	85.4%	0%
	44%	100%	6.3%	10%	8.3%	50%	13%	50%	6.25%	100%	6.3%	25%
	1%	95%	3.1%	25%	7.3%	75%	6%	80%	6.25%	50%	2.1%	50%
	1%	80%	2.1%	100%	7.3%	10%	6%	25%	6.25%	20%	2.1%	10%
	1%	60%	1%	50%	6.25%	30%	1%	35%	2.10%	25%	2.1%	5%
	1%	25%	1%	40%	6.25%	25%	1%	33%	2.10%	10%	1%	33%
	1%	10%			2.1%	85%	1%	20%	1%	80%	1%	20%
					2.1%	20%	1%	10%	1%	70%		
					1%	100%			1%	40%		
					1%	90%						
					1%	33%						

Business	Other		Walk-In		Phone		Distri.		Inter.		Fax	
Sector	% Sec	% Sales	% Sect	Sales	% Sec	% Sales	% Sec	Sales	% Sec	Sales	% Sec	Sales
Service	58%	0%	37%	0%	54%	0%	91%	0%	84%	0%	93%	0%
	26%	100%	22%	100%	12%	10%	3%	80%	4%	10%	4%	5%
	4%	60%	9%	90%	5%	90%	3%	1%	3%	100%	3%	1%
	3%	96%	4%	50%	4%	100%	1.5%	70%	3%	4%		
	3%	50%	4%	5%	4%	25%	1.5%	50%	3%	2%		
	3%	6%	3%	95%	3%	75%			2%	1%		
	2%	25%	3%	80%	3%	60%			1%	30%		
	1%	95%	3%	35%	3%	20%						
			3%	28%	3%	3%						
			3%	25%	3%	2%						
			3%	10%	2%	4%						
			3%	2%	1.5%	50%						
			2%	70%	1.5%	5%						
			1%	30%	1%	15%						

Customer Location

5. Where are your current customers/clients located?

Location	Percentage	Conf Range
Los Alamos	66%	61%-71%
N-C NM	11%	8%-14%
USA	21%	17%-25%
Worldwide	2%	1%-3%

Business Sectors

Business Sector	LAC		NC-NM		USA		Global	
	% Sec	% Cust	% Sec	% Cust	% Sec	% Cust	% Sec	% Cust
Technology	28.7%	100%	77.40%	0%	44.3%	0%	76%	0%
	22.6%	0%	5.21%	35%	13.9%	100%	6%	5%
	12.2%	90%	5.21%	2%	11.3%	10%	5%	25%
	7.0%	75%	2.60%	10%	5.2%	80%	5%	20%
	7.0%	50%	2.60%	5%	5.2%	50%	2%	50%
	6.1%	15%	2.60%	1%	5.2%	45%	2%	10%
	5.2%	98%	1.74%	50%	4.3%	95%	2%	2%
	2.6%	80%	1.74%	17%	3.5%	90%	1%	40%
	1.7%	83%	0.90%	19%	2.6%	25%	1%	9%
	1.7%	5%			0.9%	85%		
	1.7%	2%			0.9%	58%		
	1.7%	1%			0.9%	35%		
	0.9%	25%			0.9%	20%		
	0.9%	10%			0.9%	1%		

Business Sector	LAC		NC-NM		USA		Global	
	% Sec	% Cust	% Sec	% Cust	% Sec	% Cust	% Sec	% Cust
Service	24%	100%	33.82%	0%	76%	0%	88%	0%
	15%	80%	18.38%	10%	6%	50%	6%	10%
	13%	90%	11.76%	20%	3%	100%	6%	1%
	9%	50%	5.88%	100%	3%	80%		
	9%	0%	5.88%	50%	3%	20%		
	7%	40%	5.88%	40%	3%	9%		
	3%	98%	5.15%	5%	3%	1%		
	3%	94%	2.94%	35%	2%	5%		
	3%	75%	2.94%	15%	1%	70%		
	3%	65%	2.94%	4%				
	3%	60%	2.94%	2%				
	3%	5%	0.74%	60%				
	2%	95%	0.74%	1%				
	2%	85%						
	1%	99%						

Focus for New Customers/Clients

6. Where will you focus for new customers?

Rank Order of Importance (5=most important....1=least important)

Some businesses used the number 0 in their rank ordering. These were converted to a 1 (lowest rank) for inclusion in the following table.

Sales Targets	Ranked 5	Ranked 4	Ranked 3	Ranked 2	Ranked 1
Los Alamos Co.	66%	10%	3%	9%	12%
North Central NM	15.50%	46%	0.50%	22%	16%
New Mexico	1%	10%	73%	5%	11%
USA	19%	11%	10%	46%	14%
Global	6%	14%	8%	3%	69%

The confidence interval is ± 0.25 for the rank assignment given.

Business Sectors:

Sectors	Technology	Service
LAC	3.9 ± 0.32	4.3 ± 0.22
NC-NM	2.6 ± 0.27	3.7 ± 0.24
NM	2.8 ± 0.17	2.8 ± 0.19
USA	3.2 ± 0.28	2.2 ± 0.27
Global	2.5 ± 0.34	1.2 ± 0.19

Business Segments:

Business Segments	LA Co	NC-NM	NM	USA	Global
Service	5	4	3	2	1
Automotive	5	4.5	2	1.5	1
Childcare	5	4	3	2	1
Not For Profit	5	4	3	2	1
Wholesale	5	3.66	4.5	2	1
Computer	5	4	2.25	1.5	0.75
Other	5	4	3	2	1
Finan. Svcs	4.6	1.33	1	3.33	4
Retail	4.33	3.75	3.33	3.25	1.25
Consult/Tech	4.08	2.77	3	2.91	2.27
Constr/Trades	4	3	3	2.33	1
Enter & Tourism	4	3	3	3	2
Prof. Svcs	3.82	3.75	2.55	1.75	1.12
Manufacturing	3	3.28	2.83	3.62	2.16
R & D	2.11	1.88	2.55	4.3	3.75

Employee Workplace/Location

7. How many equivalent full time employees at your Los Alamos Locations - Now? & By 2001?

F/T Employees	Now	2001	% Growth
0	34%	34.5%	0.50%
1	27%	10%	-17%
2 - 275	39%	54%	15%
Total Employees	2464	2749	N/A
Average	1	2	N/A

The confidence interval is ± 4.7 employees for full-time employees - now, and ± 6.4 employees for full-time employees - 2001.

Close to one-fourth of the businesses (61 out of 257) omitted estimating their need for full time employees at their Los Alamos location by the year 2001.

8. How many employees telecommute 2 or more days a week - Now? & By 2001?

Empl-Tele	Now	2001	% Growth
0	74%	69%	-5.00%
1 - 6	23%	26.50%	3.50%
10	3%	0%	-3%
20	0%	4.50%	4.50%
Total Employees	140	227	N/A
Average No. Empl.	0.71	1.68	N/A

Confidence interval is ± 0.26 employees for the number of employees who telecommute 2 or more days - now, and $\pm .72$ employees for the number of employees who telecommute 2 or more days - 2001.

Close to half of the businesses (122 out of 257) did not estimate the number of employees who will telecommute 2 or more days a week by 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	1 ± 0.58	3 ± 1.41	180%
Services	0.4 ± 0.17	0.4 ± 0.3	-5%

Business Segments:

Business Segments	Tele Now	Tele 2001	%Growth
R & D	0.63	2	217%
Consult./Tech	1.33	3.62	172%
Manufacturing	0.12	0.25	108%
Automotive	2	3	50%
Financial Svcs	1	1.33	33%
Wholesale	0	0	0%
Computer	0	0	0%
Childcare	0	0	0%
Service	0	0	0%
Other	0	0	0%
Retail	0.2	0	-1%
Constr/Trades	1	0	-1%
Professional	0.45	0.42	-6.67%
Not For Profit	0	No Response	Unknown
Enter. & Tour.	0.5	No Response	Unknown

9. How many employees travel at least 50% of the time - Now? & By 2001?

Employees	Now	2001	% Growth
0	87.0%	83%	-5%
1	2.5%	1%	-1.50%
2	5.00%	8.33%	3.33%
3 - 35	5.5%	8.5%	3.00%
Total Empl.	243	336	N/A
Average Empl.	1.26	2.54	N/A

Confidence interval is ± 0.7 employees for the number of employees who travel at least 50% of the time - now, and ± 1.4 employees for the number of employees who will travel at least 50% of the time - 2001.

Close to half of the businesses (125 out of 257) did not estimate the number of employees who will travel at least half the time by the year 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	1.9 \pm 1.8	3.9 \pm 2.8	106%
Services	0.8 \pm 0.6	1.5 \pm 1.3	81%

Business Segments:

Business Segments	Now	2001	%Growth
R & D	0.18	0.83	361%
Consult./Tech	2.77	5.28	91%
Wholesale	5.5	1	82%
Constr/Trades	5	8.33	67%
Manufacturing	0	0	0%
Computer	0	0	0%
Other	0	0	0%
Service	0	0	0%
Automotive	0	0	0%
Retail	0	0	0%
Childcare	0	0	0%
Financial Svcs	0	0	0%
Professional	0.36	0.28	-22%
Not For Profit	0	No Response	Unknown
Enter. & Tour.	0.5	No Response	Unknown

10. How many employees are located outside Los Alamos County - Now? & By 2001?

Business Segments:

Business	Now	2001	%Growth
Segments			
Financial Svcs	0.25	1.33	432%
Professional	8	13.4	67.50%
Consult./Tech	4.7	7	49%
Constr/Trades	3.33	5	45%
Retail	0.83	1	20%
Manufacturing	0	0	0%
Other	0	0	0%
Service	0	0	0%
Automotive	0	0	0%
Computer	0.5	0	-1%
Childcare	1.5	0	-1%
R & D	0	2.14	*
Wholesale	4003	No Response	Unknown
Not For Profit	2	No Response	Unknown
Enter. & Tour.	4	No Response	Unknown

*Cannot estimate.

Close to half of the businesses (118 out of 257) also did not estimate how many employees would be located outside of Los Alamos County by 2001. The business that indicated 8000 current employees outside Los Alamos County did not project their need for employees outside Los Alamos County in the year 2001.

Telephone Equipment & Lines

11. How many business telephones do you use - Now? & By 2001?

Business Sectors

Sectors	NOW	2001	Growth
Technology	2.4 ± 0.58	3.8 ± 1.23	57%
Services	10.4 ± 6.62	15.3 ± 10.5	47%

Business Segments

Business Segments	Now	2001	%Growth
R & D	3.2	7.12	122.50%
Enter. & Tour.	1	2	100%
Constr/Trades	2.33	4.5	93%
Consult./Tech	2.38	3.63	52.50%
Wholesale	7.33	10.5	43%
Automotive	2.33	3.33	43%
Professional	25.3	34.3	36%
Computer	6.67	8	20%
Not For Profit	16	18	12.50%
Manufacturing	1.22	1.22	0%
Childcare	2.5	2.5	0%
Financial Svcs	3	3	0%
Service	1	1	0%
Other	1	1	0%
Retail	3.5	1.66	-53%

12. How many fax machines do you use - Now? & By 2001?

Fax Machines	Now	2001	% Growth
0	24%	18%	-6%
1	60%	69%	9%
2	11%	5%	-6%
3	3%	2%	-1%
25	2%	0%	-2%
40	0%	2%	2%
Total Fax Machines	285	336	N/A
Average No. of Fax Machines	1.39	1.98	N/A

Confidence interval is ± 0.47 fax machines for the number of fax machines used - now, and ± 0.91 fax machines for the number of fax machines - 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	1 ± 0.14	1.2 ± 0.3	13%
Services	1.7 ± 0.9	2.7 ± 1.6	53%

Business Segments:

Business Segments	Now	2001	Growth Rate
Professional	3.5	5.55	59%
R & D	1.2	1.42	18.33%
Consult./Tech	1.08	1.2	11%
Not For Profit	1	1	0%
Constr/Trades	1	1	0%
Manufacturing	1	1	0%
Wholesale	1	1	0%
Computer	1	1	0%
Other	1	1	0%
Retail	1	1	0%
Automotive	0.66	0.66	0%
Financial Svcs	0.5	0.5	0%
Enter. & Tour.	0	0.5	*
Childcare	0	0.5	*
Service	0	No Response	Unknown

*Cannot estimate.

13. How many credit card terminals do you use - Now? & By 2001?

CC Terminals	Now	2001	% Growth
0	64.1%	58%	-16.10%
1	31.3%	43%	11.70%
2	0.0%	6%	6%
3	2.3%	0%	-2.30%
4	2%	0%	-2.30%
5	0%	3%	3%
Total CC Term.	83	95	N/A
Avg No. of CC Term.	0.47	0.69	N/A

Confidence interval is ± 0.12 credit card terminals for the number of credit card terminals - now and ± 0.16 credit card terminals for the number of credit card terminals - 2001.

Close to half of the businesses (121 out of 257) did not estimate their need for credit card terminals in the year 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	.1 \pm 0.06	.2 \pm 0.1	163%
Services	.7 \pm 0.18	1 \pm 0.2	39%

Business Segments:

Business Segments	Now	2001	Growth Rate
Constr/Trades	0.5	1	100%
Manufacturing	0.42	0.75	79%
Professional	0.88	1.44	64%
Enter. & Tour.	0.66	1	51.50%
R & D	0.33	0.5	51.50%
Childcare	0	0	0%
Financial Svcs	0	0	0%
Wholesale	0	0	0%
Computer	1	1	0%
Automotive	0.66	0.66	0%
Other	0	0	0%
Retail	1.5	1	-33%
Service	0	1	*
Not For Profit	0	1	*
Consult./Tech	0	0.14	*

14. How many total US West Telephone Lines do you use - Now? & By 2001?

Total Lines	Now	2001	% Growth
0	7.0%	2%	-5%
1	29.0%	16%	-13%
2	37.0%	40.50%	3.50%
3	9.5%	13.50%	4%
4	4.0%	7%	3%
5	6.5%	3%	-3.50%
6 - 15	7.0%	17%	10%
Total Lines	541	624	N/A
Avg Lines	2.32	3.5	N/A

Confidence interval is $\pm .24$ telephone lines for the total US West telephone lines used - now and $\pm .51$ telephone lines for the total US West telephone lines used - 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	2.5 ± 0.4	4 ± 1.1	62%
Services	2.2 ± 0.3	3.1 ± 0.4	43%

Business Segments:

Business	Now	2001	Growth
Segments			Rate
Service	0.66	2	203%
Consult./Tech	2.64	4.6	74%
Wholesale	2.66	4.5	69%
Enter. & Tour.	1.5	2.5	67%
Constr/Trades	2.33	3.66	57%
R & D	2.5	3.83	53%
Professional	2.44	3.62	48%
Computer	4.5	6	33%
Childcare	1.5	2	33%
Automotive	3.33	4	20%
Other	1.25	1.5	20%
Retail	1.83	2	9%
Not For Profit	6	6	0%
Manufacturing	2.11	2	-5%
Financial Svcs	1.6	1.25	-22%

15. Do you use: US West Centrex or Centron Service, a Key System, PBX, or one or more single US West lines?

82 of the respondents (out of 274) of the businesses did not indicate if they used US West Centrex or Centron Service, Key System, PBX, or one or more single US West lines. The following chart illustrates responses given.

Service	% Bus. Use
US West Line(s)	94%
Centrex/Centron	2%
PBX	2%
Key System	0%

Business Sectors:

Business Sectors	Centrex/ Centron Svc	Key System	PBX	US West Lines
Technology	4%	0%	0%	91%
Service	4%	0%	7%	97%

Business Segments:

Business Segments	Centrex/ Centron Svc	Key System	PBX	US West Lines
Retail	50%	0%	0%	100%
Financial Svcs	33%	0%	0%	100%
R & D	11%	0%	0%	89%
Automotive	0%	0%	50%	100%
Professional	0%	0%	10%	100%
Enter. & Tour.	0%	0%	0%	100%
Computer	0%	0%	0%	100%
Not For Profit	0%	0%	0%	100%
Constr/Trades	0%	0%	0%	100%
Manufacturing	0%	0%	0%	100%
Wholesale	0%	0%	0%	100%
Childcare	0%	0%	0%	100%
Other	0%	0%	0%	100%
Consult./Tech	0%	0%	0%	89%
Service	0%	0%	0%	50%

Computer & Network Equipment

16. I currently use computers or network equipment, or I plan to add this type of equipment in the future?

Computer Use	Percentage
Yes	91%
No	9%

Business Sectors

Business Sectors	Will Use Computers
Technology	98%
Service	84.5%

Business Segments:

Business Segments	Will use Computers
Wholesale	100%
R & D	100%
Consult./Tech	100%
Computer	100%
Childcare	100%
Professional	100%
Financial Svcs	100%
Not For Profit	100%
Constr/Trades	100%
Manufacturing	75%
Service	67%
Enter. & Tour.	67%
Retail	67%
Automotive	50%
Other	50%

17. How many computers do you use - Now? & By 2001?

Computers	Now	2001	% Growth
0	0.5%	0%	-0.50%
1	39.0%	37%	-2%
2	28.0%	28%	0%
3 - 5	19.0%	22%	3%
6 - 8	6.5%	0%	-6.50%
10 - 250	7.0%	13%	6%
Total No. Comp.	1632	2504	N/A
Average No. Comp.	7.35	13.9	N/A

Confidence interval is ± 3 computers for the number of computers used - now and ± 6.57 computers for the number of computers - 2001.

Business Sectors:

Sectors	NOW	2001	Growth
Technology	7.0 \pm 3.1	13.0 \pm 7.2	86%
Services	7.7 \pm 5.4	14.9 \pm 11.8	93%

Business Segments:

Business Segments	Computers Now	Computers 2001	Growth Rate
Computer	6.25	20	220%
Consult./Tech	7.5	14.9	99%
Professional	17.2	30.3	76%
Other	1	1.66	66%
Constr/Trades	2	3	50%
Wholesale	7.33	10.6	45%
Service	1.5	2	33%
Automotive	1.5	2	33%
Financial Svcs	1.83	2.2	20%
R & D	11.9	13.8	16%
Manufacturing	1.85	2	8%
Enter. & Tour.	1	1	0%
Childcare	1.5	1.5	0%
Retail	1.75	1.5	-14%
Not For Profit	8	No Response	Unknown

18. How many of the listed devices do you use - Now? & By 2001?

Listed Devices are: Router/Hubs, Point of Sale Terminals, General Purpose Servers, File Servers, Print Servers, and Fax Servers.

145 to 178 of the respondents (out of 257) completing the survey did not indicate if they used any of the following devices: routers or hubs, point of sale terminals, general purpose server, file servers, print servers, fax server. 164 to 184 of respondents (out of 257) were not able to project their needs for the above listed equipment in the year 2001.

Equipment	Now	2001	% Change	Total-Now	Total-2001	Avg-Now	Avg-2001
Router/Hub	29%	39%	10%	204	281	2.22	3.51
POS Terminal	18%	12%	-6%	118	128	1.25	1.7
GP Server	46%	57%	11%	62	90	0.55	0.97
File Server	37%	48%	11%	63	111	0.79	1.44
Print Server	56%	60%	4%	61	79	0.63	1.02
Fax Server	42%	62%	20%	37	53	0.41	0.72
Total Devices	N/A	N/A	N/A	545	742	5.85	9.36

Business Sectors

Sectors	Technology		Services	
	NOW	2001	NOW	2001
Router/Hub	4.0 ± 2.8	5.6 ± 3.9	0.2 ± 0.2	0.6 ± 0.4
POS Terminals	0 ± 0	0 ± 0	2.6 ± 1.9	4.4 ± 4.0
GP Servers	0.6 ± 0.2	1.0 ± 0.4	0.5 ± 0.2	1.0 ± 0.3
File Servers	0.9 ± 0.4	1.6 ± 0.8	0.7 ± 0.5	1.2 ± 0.9
Print Servers	0.6 ± 0.2	1.1 ± 0.5	0.7 ± 0.2	1.0 ± 0.3
Fax Servers	0.5 ± 0.1	0.8 ± 0.2	0.4 ± 0.2	0.6 ± 0.2

Business Segments:

Business Segments	Rout /Hub		POS Term		GP Serv		File Serv		Print Serv		Fax Serv	
	Now	2001	Now	2001	Now	2001	Now	2001	Now	2001	Now	2001
Consult/Tech	5.33	7.16	0	0	0.66	1.16	1.2	2	0.5	1	0.5	0.8
Wholesale	1.5	1.5	0	0	0.5	0.5	0	0	1	1.33	0.33	0.5
Computer	0.75	2	1	2	0.5	1	0.75	1	0.33	0	0	0
Const/Trades	0.5	1.5	1	1	1	1.5	0	0	1	2	0	0
R & D	0.29	0.8	0	0	0.5	0.6	0.16	0.5	0.71	1.75	0.16	1
Profes. Svcs	0	0	7.33	10	0.66	1	1.66	2	1	1	0.33	0.75
Automotive	NR	NR	6	NR	1	1	1	1	1	1	1	1
Retail	0	NR	0.5	NR	0	NR	0	NR	0	NR	0.5	NR
Service	0	NR	0	NR	0.5	NR	0	NR	0	NR	0	NR
Manufactur.	0	0	0	0	0.33	0.33	0	0	1	1	0.66	0.66
Finan Svcs	0	0	0	0	0	0.5	0	0	1	1	0.5	1
Other	0	0	0	0	0	0	0	0	0	0	1	1
Enter. & Tour.	0	0	0	0	0	1	NR	NR	NR	NR	NR	NR
Not For Profit	0	NR	0	NR	0	NR	0	NR	0	NR	NR	NR
Childcare	0	0	0	0	0	0	0	0	0	0	0	0

19. If you use a Wide Area Network (WAN), how many terminals are networked together - Now? & By 2001?

163 to 195 of respondents (out of 257) skipped this question.

Business Sectors

Sectors	NOW	2001	Growth
Technology	655 ± 505	1431 ± 1103	119%
Services	13 ± 12	53 ± 47	291%

Business Segments:

Business Segments	Now	2001	%Growth
Computer	5	15	200%
Constr/Trades	2	5	150%
Professional	50	125	150%
Consult./Tech	833.33	1667	100%
R & D	19.5	24.67	26.50%
Automotive	1	1	0%
Manufacturing	0	0	0%
Other	0	0	0%
Wholesale	10	0	-1%
Enter. & Tour.	0	NR	Unknown
Retail	0	NR	Unknown
Service	0	NR	Unknown
Childcare	NR	NR	Unknown
Financial Svcs	NR	NR	Unknown
Not For Profit	NR	NR	Unknown

20. Do you use the Internet for networking?

Internet Networking	Yes	No
	54%	46%

Business Sectors:

Business Sectors	Yes
Technology	82%
Service	32%

Business Segments:

Business Segments	Yes
Wholesale	100%
Automotive	100%
Consult./Tech	91%
R & D	82%
Computer	75%
Enter. & Tour.	67%
Manufacturing	50%
Other	50%
Financial Svcs	40%
Constr/Trades	33%
Retail	25%
Professional	18%
Service	0%
Not For Profit	0%
Childcare	0%

Internet & Data Use

21. *I currently use the Internet or plan to use it in the future?*

Internet Use	Yes	No
	79%	21%

Business Sectors

Business Use	
Sectors	Internet
Technology	92%
Service	68%

Business Segments:

Business	Use
Segments	Internet
Wholesale	100%
R & D	100%
Not For Profit	100%
Consult./Tech	92%
Manufacturing	86%
Financial Svcs	83%
Retail	80%
Computer	75%
Professional	73%
Constr/Trades	67%
Service	67%
Automotive	67%
Enter. & Tour.	50%
Childcare	50%
Other	50%

22. What % of your total product purchases or supplies are purchased over the Internet - Now? & By 2001?

% Int Purch	Now	2001	% Growth
0%	58.0%	28%	-30%
1%	3.0%	0%	-3%
5%	10.5%	4%	-6.50%
10%	16.0%	6%	-10%
15% - 100%	12.5%	62%	49.50%
Avg % of Internet Purchases	7.62%	29.20%	21.58%

151 respondents (out of 257) did not estimate Internet purchases.

Business Sectors

Sectors	NOW	2001	Growth
Technology	10.0 ± 3.8%	36.0 ± 6.5%	26%
Services	2.0 ± 2.3%	19.2 ± 8.8%	17%

Business Segments:

Business Segments	Now	2001	%Growth
Computer	27.50%	100%	72.50%
Not For Profit	0%	50%	50%
Other	0%	50%	50%
Constr/Trades	5%	40%	35%
Consult./Tech	15.50%	41.80%	26.30%
Enter. & Tour.	0%	25%	25%
Wholesale	0%	13.30%	13.30%
Financial Svcs	3.33%	15%	11.67%
Manufacturing	2.63%	13.30%	10.67%
Professional	0.14%	5%	4.86%
Automotive	2.50%	0%	-2.50%
R & D	15.45%	24.1	-8.65%
Retail	0% NR		Unknown
Childcare	0% NR		Unknown
Service	0% NR		Unknown

NR=No Response

23. What % of your total sales involves use of the Internet - Now? & By 2001?

% Int Sales	Now	2001	% Growth
0%	61.0%	32.25%	-28.75%
1% - 5%	11.5%	1%	-10.50%
10% - 25%	8.3%	32.30%	24%
40% - 80%	7.3%	15%	-7.70%
90% - 100%	12.0%	19.50%	7.50%
Avg % of Int Sales	16.5%	32.4%	15.90%

149 respondents (out of 257) did not estimate the percentage of Internet sales in the year 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	22 ± 8%	44 ± 9%	22%
Services	11 ± 6%	11 ± 6%	0%

Business Segments:

Business	Now	2001	% Growth
Segments			
Service	2.50%	NR	Unknown
Automotive	3%	10%	7%
Enter. & Tour.	0%	25%	25%
Retail	0.66%	NR	Unknown
Childcare	1%	NR	Unknown
Professional	14.20%	4%	-10.20%
Financial Svcs	8.33%	20%	11.67%
Not For Profit	0%	10%	-10%
Constr/Trades	30%	10%	-20%
Manufacturing	10.30%	22%	11.70%
Wholesale	0.30%	13.30%	13%
R & D	23%	42.80%	19.80%
Consult./Tech	25%	48.30%	23.30%
Computer	50%	100%	50%
Other	5%	0%	-5%

NR=No Response

24. What % of your sales leads come from the Internet? (Hits on your Web page, emails, etc.) - Now? & By 2001?

Int Sales Leads	Now	2001	% Growth
0%	52.50%	38%	-14.50%
1% - 5%	14.25%	2%	-12.25%
10% - 20%	14.25%	13%	-1.25%
25% - 40%	3.00%	19%	16%
50%	7.00%	6%	-1%
60% - 90%	1.00%	15%	14%
100%	6.00%	6%	0%
Average	14.30%	29.80%	15.50%

Confidence interval is $\pm 4.25\%$ for the percentage of sales leads that come from the Internet - now and $\pm 6.81\%$ for the percentage of sales leads that come from the Internet - 2001.

158 respondents (out of 257) did not estimate Internet generated sales leads by the year 2001.

Business Sectors

Business Sectors	Now	2001	%Growth
Technology	21.70%	41.80%	20.10%
Service	7.40%	9.72%	2.32%

Business Segments:

Business Segments	Now	2001	% Growth
Service	5%	NR	Unknown
Automotive	1%	10%	9%
Enter. & Tour.	2.50%	25%	22.50%
Retail	0.66%	NR	Unknown
Childcare	2%	NR	Unknown
Professional	14.20%	0%	-14.20%
Financial Svcs	8.33%	50%	41.67%
Not For Profit	0%	NR	Unknown
Constr/Trades	10%	0%	-10%
Manufacturing	11%	24%	13%
Wholesale	5%	26.60%	21.60%
R & D	16.80%	34.50%	17.70%
Consult./Tech	25.70%	44.30%	18.60%
Computer	7.50%	50%	42.50%
Other	5%	50%	45%

NR=No Response

25. How many pages are on your Web Site - Now? & By 2001?

Web Site Pages	Now	2001	% Change
0	72.00%	36%	-36%
1	2.25%	10%	7.75%
2 - 7	16.75%	19.50%	2.75%
15 - 20	4.00%	3%	-1%
25 - 30	4.00%	6.50%	2.50%
40 - 50	0.50%	12%	11.50%
150 - 200	0.50%	2.00%	1.50%
Total Web Pages	584	1459	N/A
Avg Web Pages	3.9	13.5	N/A

Confidence interval is ± 1.98 web pages for the number of pages on the Web Site - Now and ± 5.71 web pages for the number of pages on the Web Site - 2001.

149 respondents (out of 257) did not estimate the number of web site pages in year 2001.

Business Sectors:

Sectors	NOW	2001	Growth
Technology	6.1 \pm 3.8	18.4 \pm 7.7%	204%
Services	1.7 \pm 1%	7.1 \pm 8.6%	328%

Business Segments:

Business Segments	Now	2001	%Growth
Service	0	NR	Unknown
Automotive	1.5	4	166.67%
Enter. & Tour.	0	1 *	
Retail	2.75	10	263.64%
Childcare	0	NR	Unknown
Professional	1	1.33	33%
Financial Svcs	0	20 *	
Not For Profit	3	4	33%
Constr/Trades	2.5	0	-1%
Manufacturing	1.12	3.6	221%
Wholesale	0	14 *	
R & D	17.7	44.5	151%
Consult./Tech	5.09	16.6	226%
Computer	13.3	100	652%
Other	0	1 *	

NR=No Response

*Cannot estimate.

26. How many page 'hits' do you get per day - Now? & By 2001?

Businesses had difficulty responding with 146 out of 257 (over half) not answering this question. For the businesses that responded, the results are as follows:

Page Hits	Now	2001	% Growth
0	76%	50%	-26%
2 - 15	15%	24%	9%
40 - 1200	4%	15%	11%
2500	5%	11%	6%
Total Page Hits	16880	68310	N/A
Avg Page Hits	152	1035	N/A

Confidence interval is ± 108 page hits for the number of page hits per day - now and ± 717.55 page hits for the number of page hits per day - 2001.

191 respondents (out of 257) were not able to estimate the number of page hits they would get in the year 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	284 \pm 200	1547 \pm 1056	444%
Services	1.3 \pm 1.6	11.8 \pm 18.7	809%

Business Segments:

Business Segments	Now	2001	%Growth
Service	0	NR	Unknown
Automotive	0	10	*
Enter. & Tour.	0	5	*
Retail	0	NR	Unknown
Childcare	NR	NR	Unknown
Professional	1.75	0	-1%
Financial Svcs	0	NR	Unknown
Not For Profit	NR	NR	Unknown
Constr/Trades	0	0	0%
Manufacturing	2	41.67	198.35%
Wholesale	0	5	*
R & D	170	1321	677%
Consult./Tech	359	1703.33	374.47%
Computer	40	200	400%
Other	0	NR	Unknown

27. How many Emails does your company receive per week - Now? & By 2001?

Over one-third (95 out of 257) of the businesses did not estimate how many Emails they received per week. Results from the businesses that did respond are as follows:

Emails	Now	2001	% Growth
0	20%	14%	-6%
1 - 5	21%	12%	-9%
6 - 10	10%	5%	-5%
15 - 40	17%	21%	4%
50 - 80	18%	3.50%	-14.50%
100 - 1000	14%	30.50%	16.50%
2000 - 10000	0%	14%	14%
Total Emails	15985	78560	N/A
Avg Emails	98.6	924.23	N/A

Confidence interval is ± 40.3 Emails for the number of Emails your company receives per week now and ± 554 Emails for the number of Emails your company receives per week - 2001. 172 respondents (out of 257) were not able to estimate the number of Emails they would receive per week by the year 2001

Business Sectors

Sectors	NOW	2001	Growth
Technology	161 \pm 71	1154 \pm 695	617%
Services	24 \pm 15	68 \pm 117	181%

Business Segments:

Business Segments	Now	2001	%Growth
Service	6.5	NR	Unknown
Automotive	10	10	0%
Enter. & Tour.	0	NR	Unknown
Retail	3.5	NR	Unknown
Childcare	1	NR	Unknown
Professional	21.1	7.5	-64.50%
Financial Svcs	4	100	2400%
Not For Profit	0	100	*
Constr/Trades	27.5	5	-82%
Manufacturing	3	34	103.33%
Wholesale	233	505	116.74%
R & D	56.2	308.33	448.63%
Consult./Tech	206	1391.1	575.29%
Computer	68	NR	Unknown
Other	5.5	NR	Unknown

28. How many Mbits/week of file or data transfer do you send/receive using the Internet or other data services?

172 respondents (out of 257) did not respond to the above question.

Mbits	NOW	2001	Growth
0	34%	18.5%	-15.5%
1-8	31%	22%	-9%
20-500	35%	22%	-13%
10,000-10,240	0%	37.5%	37.5%
Total Mbits/wk	5,689	122,232	N/A
Avg. Mbits/wk	67	3,820	N/A

Confidence interval is ± 29 Mbits/wk - now and ± 1788 Mbits/wk for - 2001.

225 respondents (out of 257) were unable to estimate the amount of data transfer by 2001. Although the low number that responded (32) is an insufficient number to reliably establish the needs of the entire business community, the needs of the few that responded indicate a 15% increase in businesses who will transfer at least 1 Mbit of information per week.

Business Sectors

Sectors	NOW	2001	Growth
Technology	115 \pm 47	4363 \pm 1969	3700%
Services	3.4 \pm 5.5	20 \pm 0	500%

Business Segments:

Business Segments	Now	2001	% Growth
Service	0	NR	Unknown
Automotive	NR	NR	Unknown
Enter. & Tour.	0	NR	Unknown
Retail	0	NR	Unknown
Childcare	NR	NR	Unknown
Professional	0.33	20	596%
Financial Svcs	2	NR	Unknown
Not For Profit	0	NR	Unknown
Constr/Trades	2.5	NR	Unknown
Manufacturing	6.66	500	7407.50%
Wholesale	0	NR	Unknown
R & D	74.7	50.67	-32.17%
Consult./Tech	139	5062.5	3542%
Computer	50.5	NR	Unknown
Other	0	NR	Unknown

29. How many total hours per week do all of your employees spend on the Internet?

88 respondents (out of 257) of the businesses did not respond to this question.

Internet Hours	Now	2001	% Growth
0	20%	20%	0%
1 - 10	63%	50%	-12%
15 - 30	13%	17%	4%
50 - 100	4%	12%	8%
10000	0%	1%	1%
Total Hours	1421	11530	N/A
Average Hours	8.4	114.19	N/A

Confidence interval is ± 1.96 hours per week - now and ± 196.16 hours per week - 2001.

156 respondents (out of 257) of the businesses did not estimate the total hours per week their employees would spend on the Internet by the year 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	11.7 \pm 3.4	172 \pm 302	1370%
Services	5.0 \pm 1.7	5.2 \pm 2.3	5%

Business Segments:

Business Segments	Now	2001	%Growth
Service	4	NR	Unknown
Automotive	6	2	-67.67%
Enter. & Tour.	0	1 *	
Retail	1.5	5	233.33%
Childcare	2	NR	Unknown
Professional	4.83	6.75	39.75%
Financial Svcs	15	30	100%
Not For Profit	0	NR	Unknown
Constr/Trades	15	0	-1%
Manufacturing	1.83	7.5	309.84%
Wholesale	0.66	7	960.60%
R & D	21.9	1680	7571.23%
Consult./Tech	10.9	21.9	100.92%
Computer	14.2	NR	Unknown
Other	6.5	15	130.77%

NR=No Response

30. Do you have an Intranet?

Businesses had difficulty estimating their future need for an Intranet, with 102 out of 257 businesses omitting this question. Current use of Intranets is low, and the need appears to be a decreasing one, with an 8.5% decrease in businesses future need for an Intranet.

Intranet	Now	Future	% Change
Use	19%	11%	-8%

Business Sectors

Business	Have	Future	%Growth
Sectors	Intranet	Intranet	
Technology	26%	19%	-7%
Service	12.5%	1.4%	-11.1

Business Segments:

Business	Have	Future	% Growth
Segments	Intranet	Intranet	
Service	0%	0%	0%
Automotive	33%	0%	-33%
Enter. & Tour.	0%	0%	0%
Retail	20%	0%	-20%
Childcare	0%	0%	0%
Professional	12.5%	0%	-12.5%
Financial Svcs	20%	20%	0%
Not For Profit	0%	0%	0%
Constr/Trades	0%	0%	0%
Manufacturing	0%	0%	0%
Wholesale	0%	33%	33%
R & D	30%	29%	-1%
Consult./Tech	29%	20%	-9%
Computer*	50%	0%	-50%
Other	0%	0%	0%

*None of the computer businesses that currently have an Intranet projected their future use, resulting in a decrease for this business segment.

31. How many low speed dedicated lines do you currently have installed for all Los Alamos locations?

Almost half of the businesses (127 out of 257) omitted this question.

Low Speed	Now	2001	% Growth
0	62%	64%	2%
1	21%	22%	1%
2	12%	10%	-2%
3	5%	0%	-5%
4	0%	4%	4%
Total Lines	77	57	N/A
Average Lines	0.592	0.588	N/A

Confidence interval is ± 0.15 lines for the number of low speed dedicated lines installed - now and ± 0.2 lines for the numbers of low speed dedicated lines installed - 2001. 160 respondents (out of 257) did not provide a 2001 estimate.

Business Sectors

Sectors	NOW	2001	Growth
Technology	0.6 ± 0.2	0.4 ± 0.2	-33%
Services	0.6 ± 0.2	0.9 ± 0.4	50%

Business Segments:

Business Segments	Now	2001	Growth Rate
Service	0	1	*
Automotive	0.5	0.67	34%
Enter. & Tour.	1	1	0%
Retail	0.33	0	-1%
Childcare	NR	NR	Unknown
Professional	0.5	1.25	150%
Financial Svcs	0.33	1	203%
Not For Profit	NR	NR	Unknown
Constr/Trades	2	NR	Unknown
Manufacturing	0	0.2	*
Wholesale	0	0	0%
R & D	0.33	0.6	81.82%
Consult./Tech	0.67	0.38	-43.28%
Computer	1	1	0%
Other	0.5	1	100%

*Cannot estimate, NR=No Response

32. How many dial-up modems do you have installed for all Los Alamos locations - Now? & By 2001?

Approximately one-third of the businesses omitted this question, suggesting some difficulty in knowing current needs.

Dial up Modems	Now	2001	% Growth
0	12%	19%	7%
1	54%	39%	-15%
2 - 4	28%	30%	2%
6 - 15	6%	4%	-2%
20 - 25	0%	8%	8%
Total	319	434	N/A
Average	1.84	3.36	N/A

Confidence interval is ± 0.37 dial up modems for the number of dial up modems installed - now and ± 1.05 dial up modems for the number of dial up modems installed - 2001.

Approximately half of the businesses did not estimate their needs for 2001.

Business Sectors:

Sectors	NOW	2001	Growth
Technology	2.0 \pm 0.4	3.5 \pm 1.4	77%
Services	1.7 \pm 0.6	3.2 \pm 1.7	86%

Business Segments:

Business Segments	Now	2001	%Growth
Service	1.5	2	33.33%
Automotive	0.67	0.5	-25.37%
Enter. & Tour.	NR	NR	Unknown
Retail	0.8	1	25%
Childcare	1	NR	Unknown
Professional	3	4.75	58.33%
Financial Svcs	0.33	0.5	51.52%
Not For Profit	NR	NR	Unknown
Constr/Trades	1	1	0%
Manufacturing	0.83	0.75	-9.64%
Wholesale	0.67	1.67	149.25%
R & D	1.6	1.83	14.38%
Consult./Tech	2.3	4	73.91%
Computer	1	0	-1%
Other	1	2	100%

33. How many high-speed lines (ISDN, V.90, T1 or Frame Relay) do you have installed for all Los Alamos locations - Now? & By 2001?

Over half of the businesses omitted this question.

High Speed Lines	Now	2001	% Growth
0	76%	27%	-49%
1 - 2	24%	62%	38%
4 - 10	0%	11%	11%
Total Lines	39	151	N/A
Average Lines	0.33	1.57	N/A

Confidence interval is ± 0.12 high-speed lines for the number of high-speed lines installed - now and ± 0.49 high-speed lines for the number of high-speed lines installed - 2001.
161 respondents (out of 257) omitted the question for 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	0.3 ± 0.2	1.7 ± 0.7	521%
Services	0.4 ± 0.2	1.2 ± 0.6	215%

Business Segments:

Business Segments	Now	2001	%Growth
Service	NR	NR	Unknown
Automotive	0	0	0%
Enter. & Tour.	0	NR	Unknown
Retail	0.5	1	100%
Childcare	NR	NR	Unknown
Professional	0.6	1.2	100%
Financial Svcs	0	0	0%
Not For Profit	NR	NR	Unknown
Constr/Trades	0	2	*
Manufacturing	0	0.4	*
Wholesale	0	NR	Unknown
R & D	0.29	1.33	358.62%
Consult/Tech	0.33	2.13	545.45%
Computer	1	7	600%
Other	0	0	0%

NR=No Response

*Cannot estimate.

34. What is most important to you in the selection of your Telecommunications Services?

(Rank order with 6=Most Important, ...1=Least Important)

Important	Percentage*
Reliability	67%
Customer Support	28%
Price	24%
Training	20%
One Supplier	9%
Billing Information	6%

*Percentages do not add to 100% because the ranking of 6 (most important) was not exclusive to one item, e.g. some businesses identified more than one area as being most important.

Confidence Interval:	Reliability	+0.22
	Customer Support	+0.19
	Price	+0.25
	Training	+0.32
	One Supplier	+0.29
	Billing Information	+0.23

Business Sectors

Business Sectors	Reliability	Cust Sup	Price	Training	One Sup	Bill Info
Technology	5.34	4.59	4.36	2.65	2.5	3.42
Service	4.9	4.64	3.88	3.28	3.22	3.03

Business Segments:

Business Segments	Rank Avg	Reliability	Cust. Sup.	Price	Training	One Supplier	Billing Info
Service	6	6	5	4	1	3	2
Automotive	6	6	5.5	5	3.5	3	4
Enter. & Tour.	4.66	4.66	4.5	3	4	3.5	1.5
Retail	5	5	5	4.75	1.66	2	4
Childcare	4	4	5	6	1	3	2
Professional	5.11	5.11	4.75	3.6	4	3.71	2.87
Financial Svcs	5.75	5.75	4	5.5	1.5	2	3.66
Not For Profit	5	5	4	6	3	2	1
Constr/Trades	NR	NR	NR	NR	NR	NR	NR
Manufacturing	5.14	5.14	3.67	4.83	1.66	3.16	3.83
Wholesale	6	6	5	2.33	4	2	3.66
R & D	5.8	5.8	3.89	4.6	1.77	2.55	3
Consult./Tech	5.25	5.25	4.82	4.2	3.16	2.42	3.42
Computer	4.25	4.25	2.75	4.75	2	3	2.75
Other	1.5	1.5	3	1.5	5	5	5

35. *What types of telecommunications services would be beneficial to your business?*
 (5=Extremely Important, 4=Important, 3=Somewhat Important, 2=Little Importance,
 1=No Importance)

89 to 126 of respondents (out of 257) omitted questions in this section.

Telecom. Svcs.	Now	2001	%Growth
Elec. Financial Svcs.	2.05	3.82	86%
Electronic Mail	2.88	4.55	58%
Video Conferencing	1.65	2.39	45%
Online Co./Libr Info	2.07	2.68	29.5%
Internet Sales	2.39	3.08	29%
Tele-Commuting	2.11	2.65	26%
Video Training	1.59	1.97	24%
Electronic Purch.	2.42	2.98	23%
High Speed Data Tr.	3.02	3.63	20%
Web Site Hosting	2.31	2.73	18%
Tele-Medicine	1.65	1.91	16%
High Speed Int. Acc.	3.36	3.79	13%
Elec. Comm. w/ LANL	3.14	3.44	9.5%

Confidence interval is ± 0.32 for the rank assignment.

Business Sectors

Business	Video	Conf.	Inter.	Sales	H.S.D.T.		OLC/LI	
Sectors	Now	2001	Now	2001	Now	2001	Now	2001
Technology	1.73	2.77	2.62	3.28	3.54	4.11	2.32	2.95
Service	1.58	1.98	2.16	2.89	2.41	2.96	1.84	2.39

Business	W.S.	Host.	Elec.	Mail	Elec.	Purch.	Elec.	Fin.Svc.
Sectors	Now	2001	Now	2001	Now	2001	Now	2001
Technology	2.78	3.28	4.45	4.99	2.63	3.43	2.43	3.08
Service	1.91	2.24	3.23	4.06	2.21	2.53	1.65	2.55

Business	Elec.	Comm. w/LANL
Sectors	Now	2001
Technology	3.7	4.13
Service	2.52	2.71

Business Segments:

Business	Video	Conf.	Inter.	Sales	H.S.D.T.		OLC/LI	
Segments	Now	2001	Now	2001	Now	2001	Now	2001
Service	1	1	3	3	1	1	2	2
Automotive	5	NR	2	5	2	5	5	NR
Enter. & Tour.	1	1	2.5	3	3	5	2	3
Retail	1	1.33	2.2	3	2	1	1.33	1
Childcare	1	1	2	3	2	2	1	1
Professional	1.67	2.29	1.86	2.17	2.43	3.17	1.67	2.43
Financial Svcs	0.5	2	2	3	0.5	3.5	3.5	3.5
Not For Profit	NR	NR	NR	NR	NR	NR	NR	5
Constr/Trades	NR	4	NR	4	NR	4	NR	4
Manufacturing	1.25	3	3.8	3.5	2.5	4.67	2.8	3
Wholesale	2.33	2.5	1.67	3.5	2.33	3.5	1	2.5
R & D	2.3	2.43	2	2.67	3.64	3.43	1.67	2.17
Consult./Tech	1.75	2.88	2.67	3.38	3.8	4.2	2.29	3
Computer	3.5	NR	4	5	4.5	5	3	5
Other	1	2	2	3	2	2	2	3

Business	HSIA		Tele-	Com.	Tele-	Med	Video	Train.
Segments	Now	2001	Now	2001	Now	2001	Now	2001
Service	5	5	1	1	1	1	1	1
Automotive	5	5	5	NR	2	NR	5	NR
Enter. & Tour.	2.5	4	2	3	1.5	2	1	1
Retail	2.75	3	2.2	1	1.75	1	1	1.33
Childcare	2	3	1	1	NR	NR	NR	NR
Professional	2	2.5	1.83	2.5	2.17	2.86	1.71	2
Financial Svcs	3.5	4	2	2	2	2.5	1	2
Not For Profit	NR	5	NR	NR	NR	NR	NR	NR
Constr/Trades	NR	4	NR	4	4	NR	NR	4
Manufacturing	3.4	5	2.2	2	1.75	1	1.25	1.5
Wholesale	2.33	3.5	1.67	3	0.67	1	2	1
R & D	3.64	4.14	1.89	3	1.11	1.83	1.33	2.33
Consult./Tech	4.22	4.44	2.29	3.29	1.33	1.5	1.43	2
Computer	4.5	5	2.67	3	1.33	3	4	5
Other	2.5	1	1.5	3	1	3	2.5	3

Business	W.S.	Host.	Elec.	Mail	Elec.	Purch.	Elec.	Fin.Svc
Segments	Now	2001	Now	2001	Now	2001	Now	2001
Service	1	1	4	5	3	4	1	1
Automotive	4	5	5	5	3	NR	2	NR
Enter. & Tour.	3	4	5	5	2	2	1	1
Retail	1	1	2.2	3.25	1.25	1.67	1.25	3
Childcare	NR	NR	3	4	2	3	1	1
Professional	1.86	2	3.13	4.14	2.25	2.29	1.83	2.43
Financial Svcs	1	2	4.75	4.5	0.5	2.5	2	3
Not For Profit	NR	NR	NR	5	NR	4	NR	4
Constr/Trades	NR	4	4	4	NR	4	NR	4
Manufacturing	3	4.67	3.83	4.5	3.43	2.67	2.4	2.5
Wholesale	2	2.5	2	3	2	3	2	2
R & D	2	2.2	4	4.43	2.33	2.83	2.25	3
Consult./Tech	3.17	3.43	4.55	5.09	2.75	3.63	2.5	3.11
Computer	3.67	5	5	5	4.33	5	3.33	5
Other	2.5	2	4	5	3.5	4	2	5

Business	Elec.	Comm. w/LANL
Segments	Now	2001
Service	4	5
Automotive	3	5
Enter. & Tour.	3	3
Retail	1.75	1
Childcare	1	1
Professional	2.5	2.5
Financial Svcs	1	1.5
Not For Profit	NR	NR
Constr/Trades	NR	4
Manufacturing	2.33	2.33
Wholesale	3	4.5
R & D	3	2.83
Consult./Tech	4.25	4.63
Computer	4	5
Other	3.5	5

36. Approximately what portion of you sales require Internet Access, Electronic Commerce, Telecommunication Services, etc. - Now? & By 2001?

% Sales	Now	2001	% Growth
0	51%	38%	-13%
1% - 5%	12%	3%	-9%
10% - 40%	17%	20%	3%
50% - 85%	2%	20%	18%
90%	4%	0%	-4%
100%	14%	19%	5%
Average	21.89%	33.10%	11.21%
% Sales			

Confidence interval is $\pm 5.41\%$ for the portion of sales - now and $\pm 6.22\%$ for the portion of sales - 2001. Well over one-third of the businesses did not estimate their needs for 2001.

Business Sectors

Sectors	NOW	2001	Growth
Technology	35% \pm 9%	46% \pm 9%	31%
Services	8% \pm 5%	17% \pm 6	87%

Business Segments:

Business Segments	Avg Now	Avg 2001	% Growth
Service	5.00%	NR	Unknown
Automotive	0.00%	5.00%	*
Enter. & Tour.	2.50%	50.00%	47.50%
Retail	0.60%	4.25%	3.65%
Childcare	0.00%	0.00%	0.00%
Professional	14.29%	3.00%	-11.29%
Financial Svcs	33.33%	50.00%	16.67%
Not For Profit	0.00%	NR	Unknown
Constr/Trades	10.00%	40.00%	30.00%
Manufacturing	31.00%	55.20%	24.26%
Wholesale	0.00%	23.33%	23.33%
R & D	31.50%	48.30%	16.80%
Consult./Tech	36.25%	44.58%	8.33%
Computer	30.00%	70.00%	40.00%
Other	10.00%	50.00%	40.00%