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Airport Insecurity:
The Case of Lost Laptops

Executive Summary, U.S. Research

Ponemon Institute LLC

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Airport Insecurity: The Case of Lost Laptops

Key Findings Prepared by Larry Ponemon, June 30, 2008

Executive Summary

Do you ever worry about losing your laptop computer while rushing to catch a flight at a busy airport?

Everyday business travelers are putting the sensitive and confidential data of their organizations at risk when they travel through airports. Sponsored by Dell, Ponemon Institute conducted this study, *Airport Insecurity: The Case of Lost Laptops* to understand the current risks posed to sensitive and confidential data contained in the laptops of business travelers.

Companies are dependent upon on a mobile workforce with access to information no matter where they travel. However, this mobility is putting companies at risk of having a data breach if a laptop containing sensitive information is lost or stolen. The findings of this study are important in helping companies understand what they should be doing to protect the information on their employees' laptops and to reduce the likelihood that their employees will lose laptops while traveling.

The twofold objectives of this study are:

- To understand how major airports throughout the United States handle laptops that are lost, stolen or missing within their facilities. Our study determines the frequency, prevalence, and airport operating practices concerning lost or missing laptops at security checkpoints, departure gates, airport retail areas, lounges and so forth.

- To assess business travelers' awareness and concern about data loss. For instance, what would they do if they lost their laptop or other portable data-bearing devices? What steps would they take after learning about this loss or theft? What have they done to protect or backup the information they carry?

To accomplish the first phase of this study, we conducted field research at 106 major airports in 46 states to determine the frequency of lost or missing laptops or notebooks at their locations.[1] In addition to laptop loss frequency, we captured information about airport operating practices concerning laptop recovery, reclamation rates, and laptop disposal procedures.

For the second phase of research, we conducted a U.S. nationwide survey involving 864 business travelers in the airport environment. Our survey attempted to determine:

- How frequently do business travelers carry their company assigned laptop or notebook computers?

- Do business travelers carry sensitive or confidential business information on their laptop or notebook computers? If so, what type of sensitive data do their laptops contain and do they take steps to protect the information?

- What steps do business travelers take to secure their laptop or notebook computers they carry and use in public venues?

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[1] Thirty-six of the 106 airports included in this research are Bravo (B) Class (largest airport airspace designation by the Federal Aviation Administration (FAA). The remaining 70 are Charlie (C) Class airports, which typically handle large commercial passenger traffic.

Key Findings

Following are some of the most salient findings revealed in this comprehensive national research study of airports and business travelers:

1. Business travelers lose more than 12,000 laptops per week in U.S. airports.

Table 1 reports summary statistics about weekly lost, missing or stolen laptop computers within 106 airport locations.[2] The average loss frequency among the largest U.S. airports is 286 laptops per week or 10,278 for all 36 Class B airports included in our study. The comparable frequency for the remaining large U.S. airports is 28 devices per week or 1,977 for all 70 Class C airports included in our study.

Table 1 Summary of lost, missing or stolen laptops at U.S. airports	Freq. per week
Class B airports average	286
Class B lost laptops per week for 36 airports	10,278
Class C airports average	28
Class C lost laptops per week for 70 airports	1,977
Total lost laptops per week	12,255

Bar Chart 1 reports the 10 U.S. Class B airports with the highest weekly frequency of laptop loss.
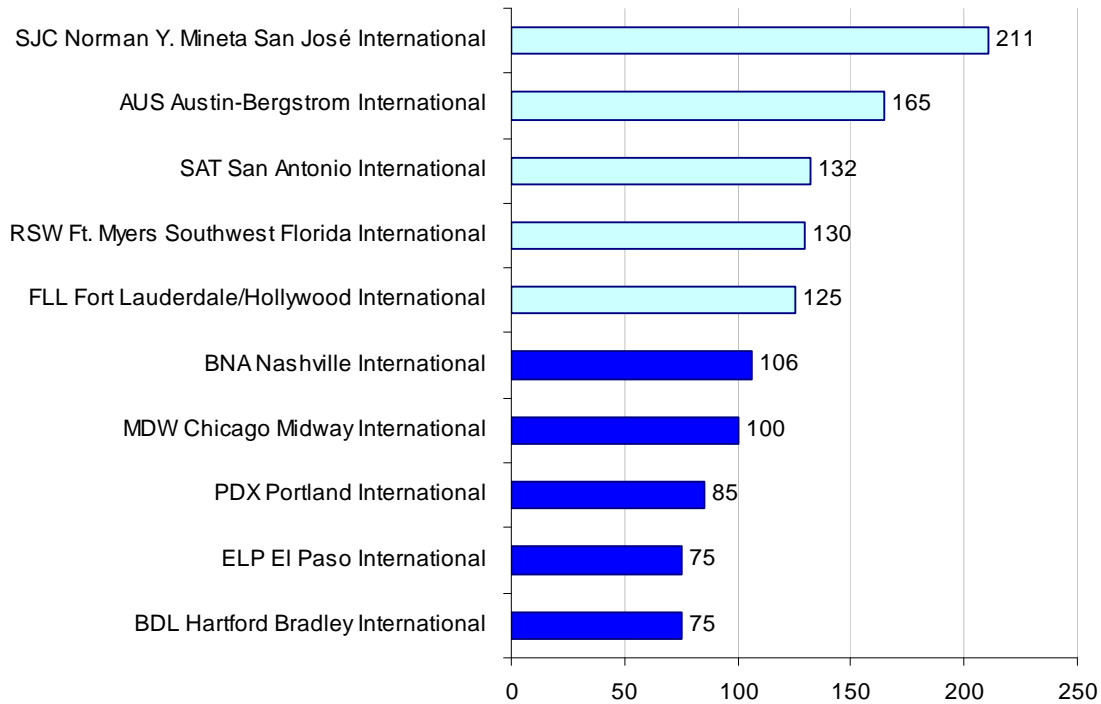

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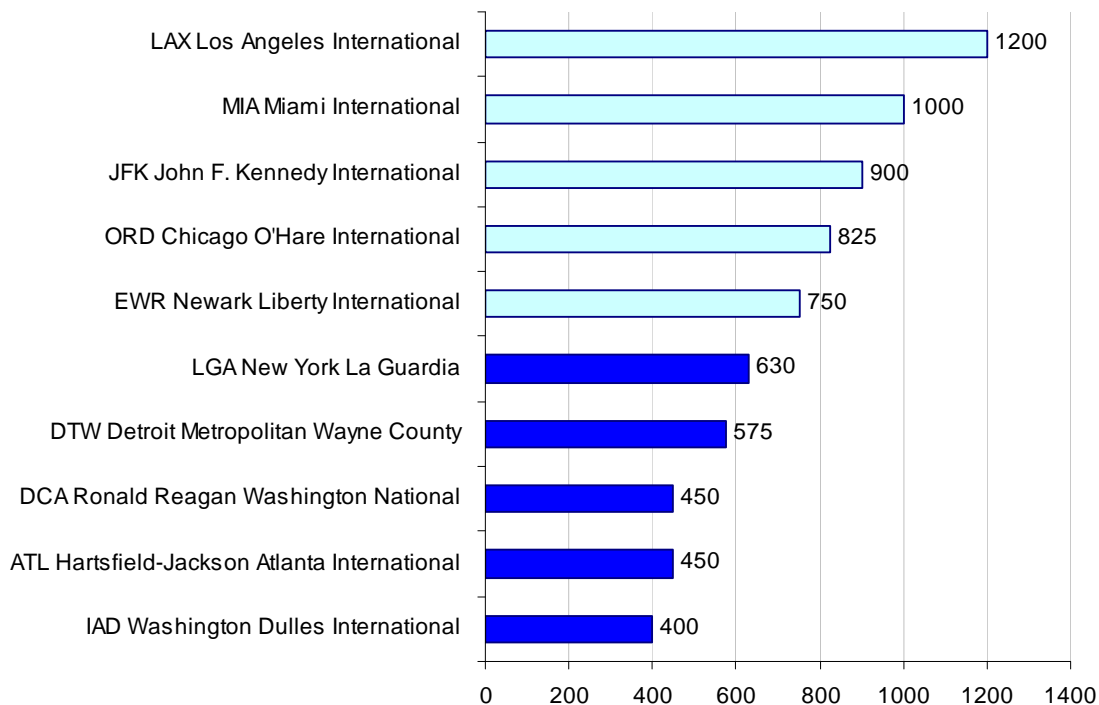
[2] Laptop loss frequencies were collected from a confidential field survey as either a direct weekly estimate or as a range variable as reported by airport officials. Exact loss frequencies were typically not calculated or available for review.

The five airports with the highest number of lost, missing or stolen laptops include: Los Angeles International, Miami International, Kennedy International, and Chicago O'Hare. While Atlanta's Hartsfield-Jackson International is the busiest airport in the U.S., it is tied for eighth place (with Washington's Reagan National) for lost, stolen or missing laptop computers.

Bar Chart 2 reports the 10 U.S. Class C airports with the highest weekly frequency of laptop loss.

Airport	Value
SJC Norman Y. Mineta San José International	211
AUS Austin-Bergstrom International	165
SAT San Antonio International	132
RSW Ft. Myers Southwest Florida International	130
FLL Fort Lauderdale/Hollywood International	125
BNA Nashville International	106
MDW Chicago Midway International	100
PDX Portland International	85
ELP El Paso International	75
BDL Hartford Bradley International	75

2. Only 33% of laptops lost and found in airports are reclaimed.

The other 67% of subsequently found laptops remain in the airport until they are disposed of. As a result, there are potentially millions of files containing sensitive or confidential data that may be accessible to a large number of airport employees and contractors.

Table 2 Average recovery statistics	Class B	Class C	Overall
Recovered before flight	22%	15%	0.17
Recovered after flight	9%	20%	0.16
Never recovered (extrapolated)	69%	65%	0.67

3. Over 70% of business travelers feel rushed when trying to get on their flights and 60% worry that delays due to security checkpoints will cause them to miss their flight.

The stress of rushing to catch a flight combined with the number of items business travelers typically carry (i.e. laptops, cell phones, PDAs, brief cases, luggage etc.), creates a situation that is conducive to property loss. The rate of loss may be exacerbated by checkpoint security procedures that require passengers to separate from their personal property during electronic scanning or pat downs.

Bar Chart 3 reports business travelers' state of mind at airports, Each bar reports the percentage of respondents who strongly agree or agree to each of the three attributions presented.
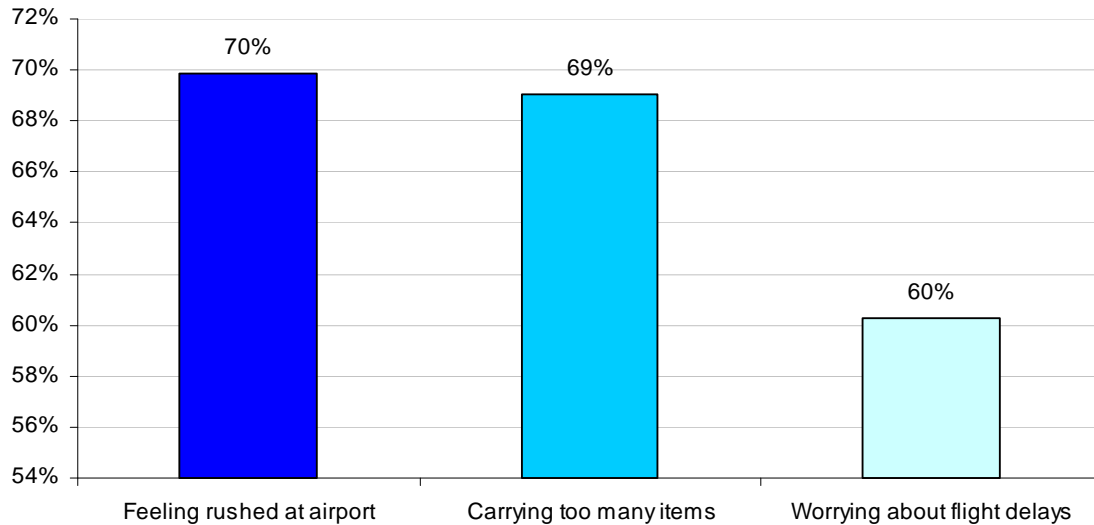
4. Over 53% of business travelers say that their laptops contain confidential or sensitive information. However, 65% of these travelers admit they do not take steps to protect or secure the information contained on their laptop.[3]

As noted below, 57% worry about losing their laptop and over 50% say they have left their luggage and laptop under the watchful eye of a fellow passenger. Over 42% of respondents admit that they do not backup the data in their laptop computers.

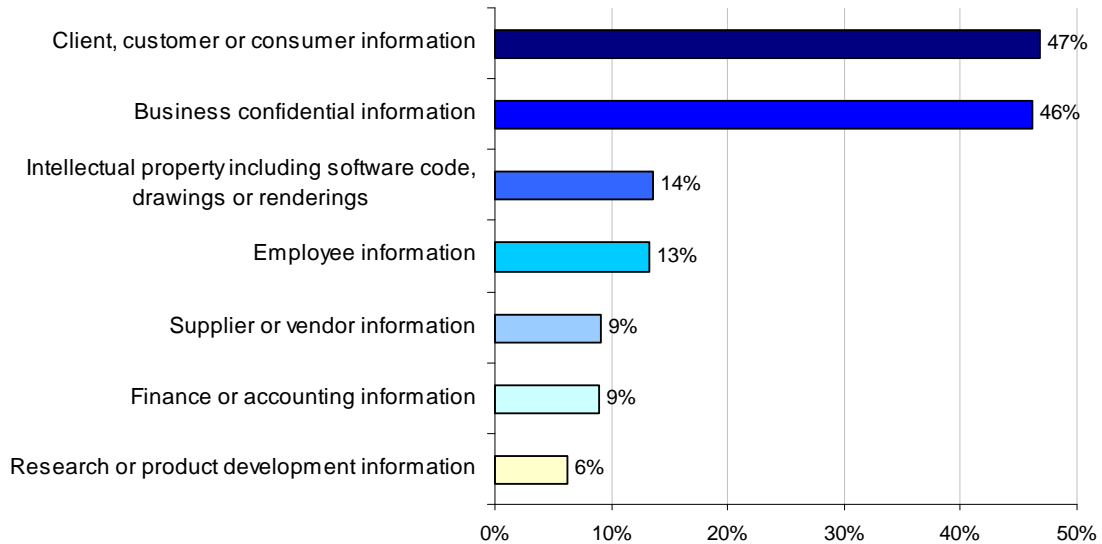Bar Chart 4 reports business travelers' percentage affirmative responses to five survey questions.

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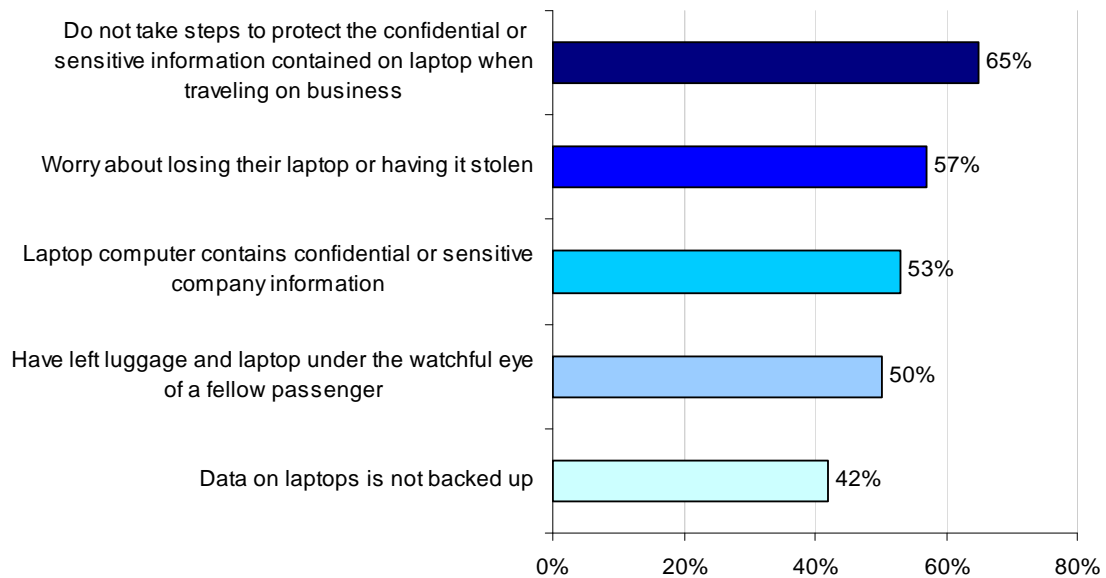
[3] The 65% is calculated from two survey items Q19a (No) and Q19b (Don't Know) responses.

The types of company information contained on business traveler's laptop computers include customer or consumer data (47%), business confidential information (46%), intellectual property such as software code, drawings or renderings (14%), and employee records (13%).

Bar Chart 5 reports the types of company information contained on laptops.

Bar Chart 5 data:
- Client, customer or consumer information: 47%
- Business confidential information: 46%
- Intellectual property including software code, drawings or renderings: 14%
- Employee information: 13%
- Supplier or vendor information: 9%
- Finance or accounting information: 9%
- Research or product development information: 6%

5. Over 34% of business traveler who say they do take steps to protect the sensitive or confidential information in their laptop computers don't know how this information is protected.

About 45% of respondents say they use passwords when signing on to their computer. Over 19% use disk encryption or encrypt specific records or files. Less than 5% of respondents utilize a biometric tool such as a fingerprint reader.

Bar Chart 6 reports the security protections utilized by 53% of business travelers.

Bar Chart 6 data:
- Password to sign on: 45%
- Don't know: 34%
- Whole disk encryption: 19%
- Encryption of files: 19%
- Password to specific record or file: 14%
- Biometric: 5%
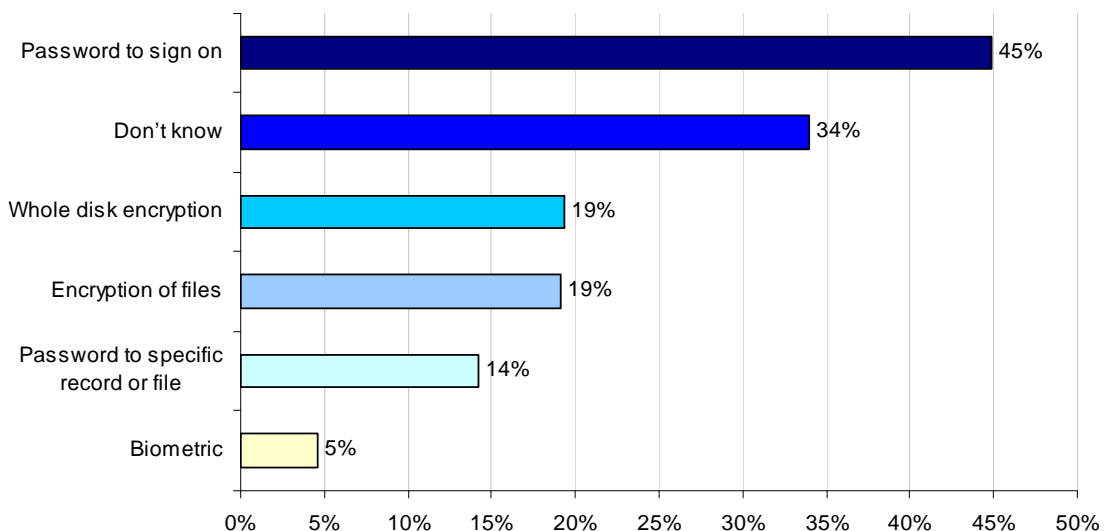
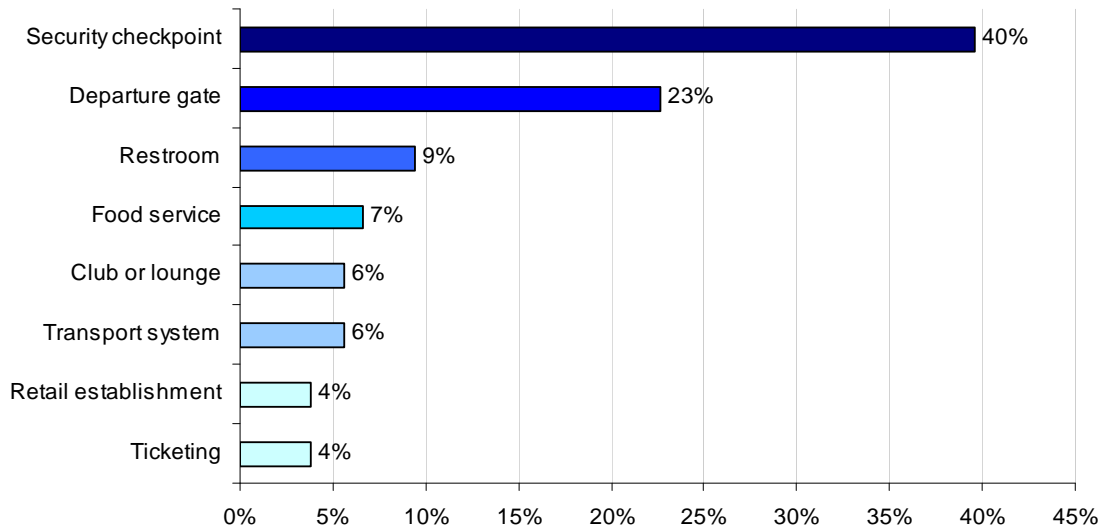**6. According to U.S. airport representatives, the most common airport locations where laptops are lost include security checkpoints (40%) and departure gates (23%).**

Bar Chart 7 reports the airport locations where laptop computers are lost and found.

Recommendations and Conclusion

Lost laptops in airports are a serious issue for business travelers and their companies. As revealed in this study, very often business travelers' laptops contain sensitive or confidential business information that is vulnerable to a data breach.

According to our *Cost of Data Breach Study*, the average business cost when confidential personal information is lost or stolen is **$197 per record**.[4] Obviously, even one missing laptop can become a serious problem for any organization. To avoid having this occur, we recommend the following simple steps.

▪ Label your laptop. Provide your full contact information so that if the device is found, airport personnel will be able to reach you or your company quickly.

▪ Allow enough time. Airline travel is a hassle that only gets worse when you don't allow enough time. Stupid mistakes can be avoided if you slow down your pace.

▪ Carry less and think ahead. Have a mental strategy when removing laptops and other possessions prior to screening at a security checkpoint.

▪ Take appropriate security measures to protect your information. Consider the use of encryption technologies and always backup your system.

▪ Think twice about the information you carry on your laptop. Is it really necessary to have so much information accessible on your computer?

▪ Know who to call. Airports need to do a better job coordinating the lost and found process, especially when it concerns the loss of a laptop computer or other data-bearing devices.

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[4] U.S. Cost of Data Breach Study, Ponemon Institute LLC, November 2007

Appendix I: Airport Laptop Loss
Field research completed on June 19, 2008

Legend: B = Class Bravo (largest US airports/airspace); C = Class Charlie (large US airports/airspace) and I = major international airports in Canada and Latin America.

Class	Airport Code	Estimated Weekly Frequency of Laptop Loss
B	PHX Phoenix Sky Harbor International	200
B	LAX Los Angeles International	1200
B	SAN San Diego International Lindbergh Field	10
B	SFO San Francisco International	350
B	DEN Denver International	175
B	MIA Miami International	1000
B	MCO Orlando International	50
B	TPA Tampa International	200
B	ATL Hartsfield-Jackson Atlanta International	450
B	HNL Honolulu International	5
B	ORD Chicago O'Hare International	825
B	CVG Cincinnati/Northern Kentucky International	30
B	MSY Louis Armstrong New Orleans International	100
B	BWI Baltimore/Washington International	125
B	BOS Logan International (Boston)	200
B	DTW Detroit Metropolitan Wayne County	575
B	MSP Minneapolis-St. Paul International	200
B	MCI Kansas City International	25
B	STL Lambert-St. Louis International	35
B	LAS Las Vegas McCarran International	240
B	EWR Newark Liberty International	750
B	JFK John F. Kennedy International	900
B	LGA New York La Guardia	630
B	CLT Charlotte/Douglas International	60
B	CLE Cleveland-Hopkins International	50
B	PHL Philadelphia International	275
B	PIT Pittsburgh International	85
B	MEM Memphis International	75
B	DAL Dallas Love Field	5
B	DFW Dallas Fort Worth International	250
B	HOU Houston William P. Hobby	175
B	IAH George Bush Intercontinental (Houston)	125
B	SLC Salt Lake City International	3
B	DCA Ronald Reagan Washington National	450
B	IAD Washington Dulles International	400
B	SEA Seattle-Tacoma International	50
C	BHM Birmingham International	3
C	ANC Ted Stevens Anchorage International	0
C	TUS Tucson International	15

C	LIT Little Rock Adams Field	20
C	XNA Fayetteville/Springdale Arkansas Regional	3
C	BUR Burbank Bob Hope	15
C	OAK Metropolitan Oakland International	65
C	ONT Ontario International	25
C	SMF Sacramento International	3
C	SBA Santa Barbara Municipal	3
C	SNA John Wayne-Orange County	8
C	SJC Norman Y. Mineta San José International	211
C	COS City of Colorado Springs Municipal	30
C	BDL Hartford Bradley International	75
C	DAB Daytona Beach International	25
C	FLL Fort Lauderdale/Hollywood International	125
C	JAX Jacksonville International	20
C	PBI Palm Beach International	30
C	PNS Pensacola Regional	1
C	RSW Ft. Myers Southwest Florida International	130
C	SFB Orlando Sanford International	5
C	SRQ Sarasota/Bradenton International	8
C	TLH Tallahassee Regional	25
C	CSG Columbus Metropolitan	3
C	BOI Boise Air Terminal/Gowen Field	3
C	CMI Champaign/Urbana	3
C	MDW Chicago Midway International	100
C	MLI Moline Quad City International	1
C	IND Indianapolis International	30
C	DSM Des Moines International	1
C	LEX Lexington Blue Grass Field	1
C	SDF Louisville International-Standiford Field	12
C	BTR Baton Rouge Metropolitan/Ryan Field	8
C	PWM Portland International Jetport	50
C	FNT Flint Bishop International	50
C	GRR Grand Rapids Gerald R. Ford International	35
C	JAN Jackson International	10
C	LNK Lincoln Airport	5
C	OMA Omaha Eppley Airfield	10
C	RNO Reno/Tahoe International	15
C	MHT Manchester-Boston Regional	22
C	ABQ Albuquerque International Sunport	25
C	ALB Albany International	18
C	BUF Buffalo Niagara International	5
C	ISP Islip/Long Island MacArthur	10
C	ROC Greater Rochester International	20
C	SYR Syracuse Hancock International	1
C	FAY Fayetteville Regional/Grannis Field	3
C	GSO Greensboro Piedmont Triad International	10
C	RDU Raleigh-Durham International	25

C	CAK Akron Canton International	5
C	DAY James M. Cox Dayton International	1
C	OKC Oklahoma City Will Rogers World	8
C	TUL Tulsa International	8
C	PDX Portland International	85
C	SJU San Juan Luís Muñoz Marin International	3
C	PVD T. F. Green Airport (Providence)	21
C	GSP Greenville-Spartanburg International	3
C	MYR Myrtle Beach International	3
C	BNA Nashville International	106
C	AUS Austin-Bergstrom International	165
C	ELP El Paso International	75
C	LBB Lubbock International	1
C	SAT San Antonio International	132
C	BTV Burlington International	5
C	ORF Norfolk International	8
C	ROA Roanoke Regional Airport	0
C	RIC Richmond International	1
C	CRW Charleston Yeager	1
C	MKE Milwaukee General Mitchell International	25
!	YYZ Toronto	280
!	YVR Vancouver	65
!	YUL Montreal	87
!	CHG Brazil (Sao Paulo)	200
!	Argentina	15

Appendix II: U.S. Business Traveler Survey
Survey completed on June 19, 2008

The following table reports survey items pertaining to laptop security. The response rate = 5.68%.

Description	Total	Pct%
Sampling frame	33,736	100.00%
Bounce back	6,011	17.82%
Total responses	1982	5.88%
Reliability rejections	65	0.19%
Net sample after reliability checks	1,917	5.68%

The following are the screening question used to finalize sample.

1. Background		

Q1. How many times in a year do you fly a commercial airline for **business**? Please select the number of airline trips taken during the past 12 months.	Pct%	
0 trips (stop)	11.2%	-214
1 to 5 trips	7.9%	
6 to 10 trips	53.6%	
11 to 25 trips	21.9%	
More than 25 trips	5.3%	
Total	100.0%	

Q2. Do you typically carry your laptop when traveling on business?	Pct%	
Yes	51%	
No (stop)	49%	-839
Total	100%	

Adjusted sample size after two screening questions	864

The following tables provide the percentage frequencies of survey results for a sample of business travelers located in the United States. Pct% = percentage frequency where the table sums to 100% (only one choice allowed). Total% = percentage frequency where the table sums to > 100% (more than one choice allowed).

Q3. What percentage of your business travel is international (outside your home country)?	Pct%
None	19%
Less than 10%	38%
Between 11 to 20%	19%
Between 21 to 50%	9%
More than 50%	14%
Total	100%

Q4. Are you a member of one or more frequent flyer programs?	Pct%
Yes	88%
No	12%
Total	100%

2. Airport experience

Q5. I often need to rush from the time I arrive at the airport to the time I'm seated on the airplane.	Pct%
Strongly agree	38%
Agree	32%
Unsure	6%
Disagree	19%
Strongly disagree	6%
Total	100%

Q6. When I travel, the items I carry with me make it difficult to maneuver through airport security checkpoints.	Pct%
Strongly agree	33%
Agree	36%
Unsure	9%
Disagree	18%
Strongly disagree	4%
Total	100%

Q7. I often worry about missing my flight because of time delays caused by security procedures.	Pct%
Strongly agree	19%
Agree	42%
Unsure	13%
Disagree	17%
Strongly disagree	9%
Total	100%

Q8. Despite the hassle, I believe that checking my laptop or notebook computer separately from other carry-on items increases passenger safety and security.	Pct%
Strongly agree	5%
Agree	7%
Unsure	23%
Disagree	40%
Strongly disagree	24%
Total	100%

Q9 Do you worry about losing your laptop or having it stolen?	Pct%
Yes	57%
No	43%
Total	100%

Q10. Have you ever left your luggage and laptop under the watchful eye of a fellow passenger?	Pct%
Yes	50%
No	50%
Total	100%

3. Confidential data on your laptop	
Q17. Does your laptop computer contain confidential or sensitive company information?	Pct%
Yes	53%
No (Go to Part 5)	47%
Total	100%

Q18. Please check the types of information that may reside on your laptop when traveling on business.	Total%
Client, customer or consumer information	47%
Employee information	13%
Business confidential information	46%
Finance or accounting information	9%
Research or product development information	6%
Supplier or vendor information	9%
Intellectual property including software code, drawings or renderings	14%
Other (please specify)	2%
Total	146%

Q19a. Do you take steps to protect the confidential or sensitive information contained on your laptop when traveling on business?	Pct%
Yes	53%
No	47%
Total	100%

Q19b. If yes, how do you protect this information?	Total%
Information is not protected	9%
Encryption of files	19%
Encryption of the hard disk	19%
Passwords when signing on	45%
Test question or private facts when signing on	3%
Biometric device (such as figure print reader) when signing on	5%
Password protection to specific records or files	14%
Other (explain)	1%
Don't know	34%
Total	150%

Q19c. What would you do if your laptop was lost when traveling on business? Please check all that apply.	Total%
Nothing	16%
Retrace my steps and contact the lost and found department of different places I visited	27%
Contact my company and ask them for advice	58%
Contact legal authorities or law enforcement	3%
Other (please specify)	3%
Total	106%

Q20. If your laptop was lost or misplaced at an airport, what do you think are the chances it would be recovered by you or your organization?	Pct%
No chance	35%
Less than 10%	42%
Between 11 to 30%	16%
Between 31 to 50%	5%
Between 51 to 70%	0%
Between 71 to 90%	1%
Over 90%	1%
Total	100%

Q21. Have you ever lost a laptop computer?	Pct%
Yes	1%
No	99%
Total	100%

Q22. How would you go about retrieving the data lost on your missing laptop computer?	Pct%
I routinely backup my data	13%
My company routinely backs up my data	38%
My data is not backed up	42%
I don't know	6%
Total	100%

Q23. Do you know anyone who has lost a laptop computer while traveling on business?	Pct%
Yes	84%
No	16%
Total	100%

5. Demographics: Please check the most appropriate response to each item listed below.	
Please check your age range?	Pct%
18 to 25	13%
26 to 35	30%
36 to 45	23%
46 to 55	19%
56 to 65	10%
66 to 75	4%
75+	1%
Total	100%

Have you ever been notified that your personal information was lost or stolen?	Pct%
Yes	70%
No	15%
Unsure	15%
Total	100%

How important to you is the protection of your privacy rights?	Pct%
Very important	48%
Important	41%
Not important	9%
Irrelevant	2%
Total	100%

What is your highest level of education attained?	Pct%
High school	9%
Vocational	7%
Some university	34%
University degree	40%
Post graduate	9%
Doctorate	2%
Total	100%

What best describes your employment status today?	Pct%
Full time employee	58%
Part time employee	13%
Business owner	5%
Contractor	9%
Military	6%
Retired	0%
Unemployed	5%
Student	4%
Total	100%

Approximately, what is your household income?	Pct%
Less than $20,000	1%
$20,000 to $40,000	1%
$41,000 to $60,000	12%
$61,000 to $80,000	13%
$81,000 to $100,000	25%
$101,000 to $150,000	29%
$151,000 to $200,000	13%
$201,000+	6%
Total	100%

Where is your job function located?	Pct%
Sales	24%
Marketing & communications	12%
Finance & accounting	8%
Research & development	2%
Administration	3%
General management	20%
Procurement & logistics	10%
Information technology	14%
Legal & compliance	3%
Public affairs	1%
Other	2%
Total	100%

How long have you used a laptop computer for business?	Pct%
Less than 1 year	1%
Between 1 to 3 years	18%
Between 4 to 5 years	55%
Between 6 to 8 years	23%
Between 9 to 10 years	2%
More than 10 years	1%
L	100%

What is the worldwide headcount of your organization?	Pct%
Less than 500 people	3%
500 to 1,000 people	9%
1,001 to 5,000 people	19%
5,001 to 25,000 people	33%
25,001 to 75,000 people	30%
More than 75,000 people	7%
Total	100%

What is your location?	Pct%
Northeast	20%
Mid-Atlantic	18%
Midwest	18%
Southeast	13%
Southwest	13%
Pacific	18%
Total	100%

Please check	Pct%
Female	47%
Male	53%
Total	100%

Who has responsibility for backing up your laptop data?	Pct%
I am responsible	10%
No one is responsible	31%
My company is responsible	41%
Don't know	18%
Total	100%

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Advancing Responsible Information Management

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