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Business Contingency Planning and Post September 11th, 2001

Introduction

After September 11th, 2001 companies had to rethink their disaster planning. The companies that were in the World Trade Center found it difficult to bring in their disaster recovery teams because their IT functions were disabled. What needs to be fully understood is that no one in the United States had planned for a disaster of this magnitude. Most network providers were affected by the event and most claim that their readiness helped prevent a technical catastrophe. However, since then, there has been heightened readiness. There are new ways to plan for disasters and preparing in advance can help to minimize a company's loss in the event a catastrophic event was to happen. Planning has become more important than ever since we now know that a catastrophic event such as this one can create excessive amounts of damage, including loss of life. It is important to know what contingency planning is; the planning strategies; and some examples of company lessons that were learned and what they have done to fix their contingency plan.

There is a complete list of companies that were in the World Trade Center Complex at the end; see Figures A-F. Also for reference and for those not familiar with the day's events or want a refresher can see it at the end of the paper as well.

Contingency Planning

When a company prepares for the unexpected they are practicing contingency planning. Contingency planning is what an organization does to prepare for, detect, react to, and recover from unexpected events that threaten the security of information resources and assets, both human and natural. An important part of contingency planning is business continuity planning. This type of planning ensures that critical business functions can continue if a disaster occurs. If the business location is unusable then there has to be a plan that will allow it to continue to function. Some businesses big or small require continued operation for revenue. It is important that a company identify the critical business functions and the resources to support them because these are the first that need to be reestablished if disaster strikes.¹

Post 9/11 Contingency Planning Strategies

Location of Response Teams

Many organizations seem to think that having their response team close by is a good idea. In actuality it is a good idea. However, what happens when there is wide spread catastrophe in one area? The World Trade Center is the best example, as well as the Pentagon. A company's response team could be apart of the wounded or dead. In that case your response team would be non-existent or ineffective. What needs to be done instead is a preparation of at least two teams; one would be in the immediate vicinity while the other would be at least 100 miles away. The idea is that the team is far enough that they are out of harm's way of a catastrophe but close enough so they can travel without difficulty. The second team should have access to their company building and site maps as well as gas lines, exits, stairways, etc... It is also important that these plans be kept confidential so that unauthorized users can't use it to betray others or cause damage to anything.²

Separate Storage and Staging Areas

The same concept goes for storage and staging areas as for second response teams. The second site storage area should be located at least 100 miles away from the site being supported and close to the second response team. The problem with private corporations that are very IT dependent is that they run the risk of going out of business if all of their backup locations are destroyed. After September 11th, MasterCard said that it would locate its backup facilities within three to four hours driving range.³ If and when the second team is deployed, then they are going to need a staging area. This is where they will gather equipment and if necessary seek shelter in case the primary site is flooded, on fire, or something that prohibits them from arriving to that site.⁴

Establish Senior Management Help Desk

There are two reasons for the importance of the Help Desk. The first is that it provides a set of fallback managers that can be contacted in case managers near the primary site are missing, injured, or dead. The second reason is that quicker decisions can be made. The Help Desk can get faster upper management approval, keep up to date with the media, and be able to keep the recovery team focused on recovery priorities. Even though the best contingency plans will never cover every disaster scenario it is always better to be as prepared as possible so that new situations that arise will be easier to fix.⁵

Alternate Vendors

In the event such as September 11th, 2001 there is a good chance that primary vendors will be overloaded with many or all their clients' requests. It is a good idea to establish "as needed" contracts with alternate vendors and to maintain and update all contact information with them. Aside from alternate vendors, companies need to create a list of their equipment and the vendors that support them. What is important to realize is that no matter how significant an item is, it can affect the operation of a company. According to NetworkWorld Fusion some analysts say that up to 60 % of an organization's critical data is stored on laptops and desktops.⁶ After September 11th SunGard said that a major

deficiency was that of scope planning. Its printers were overlooked in the recovery process, meaning that they were not being treated as equally important.⁷

Carrier Circuit Locations

There are companies that have circuits that connect to different locations. These circuits carry information in and out of a company and it is important that there be proper connectivity. For some companies it might even be wise to have a backup circuit in case one of them is in a high profile area such as Manhattan. Losing that circuit and not having a backup can be a very costly lesson and can hurt some companies more than others.⁸ In response to the location of a circuit, Jack Norris, Director for Customer Service at Equant said:

"One of the circuits we purchased to be diverse was routed through Wall Street," Norris says. That was a surprise because the circuit was to connect New York's Long Island to Toronto and Montreal. "We didn't expect that particular facility would be in a different borough, and we didn't expect it to go through lower Manhattan. If we knew, we would have asked for a change."⁹

Redundancy and Data Mirroring

For fast recovery time companies need to invest in redundancy. The redundancy of data in different locations cuts down the amount of time it takes to recover from a disaster. A good example comes from Lehman Brothers who was able to access data in New Jersey when the network was down in Manhattan.¹⁰ All of their data was backed up in that location. Due to their planning and use of redundancy they were able to access all of their branches through New Jersey.¹¹ AT & T's NOC in Bedminster, N.J has a backup NOC with full redundancy as well as supplying each of its networks with a separate operations center. A mini NOC is given to Frame Relay, ATM, private, IP, and voice lines.¹²

Establish Emergency Communication Plan

On September 11th, 2001 many of the phone lines as well as cell phone communication were down. This made it difficult for key members of organizations to activate their disaster plans. Many organizations reported that Blackberry wireless devices were the only means of communicating. Lehman Brother's Managing Director and Chief Technology Officer said that while he was descending the stairwell in Tower One (North Tower) all he had was his Blackberry to activate the disaster plan and alert other managers for his company.¹³ As new technology is created there will be new alternatives. For now, senior managers and all members of disaster recovery teams should be assigned a communication device. It is even practical for the Human Resource Department to have communication devices assigned. The Justification is that the department can help the employees of the company by finding mental health counselors to help deal with post-disaster. Also the department can be useful in locating public safety and utilities.¹⁴

Air Transportation Availability

It is important that a company realizes that air transportation is not always available. As we all learned on September 11th, 2001, all air transportation was grounded; nothing leaving or landing. This included any international flights attempting to land. Other means of transportation including rail and trucking were not considered by some.¹⁵ MasterCard was one company that did not account for the fact that flying was not an option:

"We're going to move the backup closer, within three to four hours' driving range," Ahrens says. "And we're going to be able to operate it remotely. In the existing facilities in New York, you don't have all the remote controls. For instance, if I'm starting a job on a mainframe or monitoring a Unix system or reloading software today someone has to sit in front of a console in New York or here."¹⁶

AT & T's voice network performed as it should. It was able to handle 431 million calls, compared to its normal 330 million. However, since it was located at the West Street location in lower Manhattan near Verizon, it had to deploy its disaster recovery team. This would have been an easy fix except that the company had run into a problem:

AT&T's typical disaster recovery plan calls for engineers to fly into the disaster site from parts of the country that were not affected. That was more challenging in this case because flying was not an option. Deacon says staffers drove to New York from as far away as Jacksonville, Fla. Engineers manned the mobile facility, working 12-hour shifts, for six weeks.

Post-Meeting Facilities

Before September 11th, 2001 it might have been smart to meet in the basement of where your building is or directly outside, however; we know now that collapsing buildings are a possibility. The reason for this meeting is so that a company can get a head count of their employees to determine who is missing. It is advisable that meetings take place at least a block away to avoid injury from debris, fires, etc...¹⁷

Monthly Evacuation Drills

Every month companies need to run drills and then evaluate the meeting spot. These drills need to be spontaneous and planned because knowing an event is about to commence does not create as much panic as an unplanned incident and therefore might not be as effective. Constant drills will make you more prepared and make you more able to handle an incident and any situation for that matter that you have not prepared for.¹⁸

A University's Decree

Pace University

Contingency Planning Before 9/11

Two years prior to September 11th, 2001 Pace university began to discover ways to minimize IT disruptions:

“We consolidated mission-critical servers (including our web pages, student information systems, human resource system, financial system, email system, library, and courseware systems) into a protected environment having a fire suppression system, an uninterruptible power supply with generator backup, and all-hours human oversight. We started to cluster our open systems mission-critical servers to get redundancy. We contracted for redundant backbone links.”

Early morning on September 12th, 2001 internet connectivity failed due to the damaged Verizon location in Building 7. However, their internal network, which connected all campus sites (except for the destroyed WTC location), survived. The internal network was FDDI. Their internet service provider (Applied Theory) stopped working however because it was on Verizon’s primary and alternative sites. The Chief Technology Officer moved the mission-critical servers to a disaster recovery site (Xand.com, in Hawthorne, New York) and then their Domain Name Service (DNS) administrator contacted the Internic (which handles DNS changes) and they re-hosted the mission critical external systems at the recovery site. It took 24 hours for the internet to come back online and when it did, students and faculty were able to access web pages and email.

“It was extremely important to have Internet connection again because our downtown phones weren’t working either, meaning parents, students and the public couldn’t contact our Manhattan campus sites. Because our Internet link to the disaster recovery site also wasn’t functional, our CTO devised an ingenious scheme to use dial-up networking to relay e-mail back and forth to our internal network.”

After the Internet came back online the university network was infected with the W32/Nimda@MM virus. It permeated when the Internet was down the virus updates could not be made so when everything came back online it was vulnerable. Many emails that came through were infected and took the whole first day to fix.

Contingency Planning After 9/11

Pace University executed a less than perfect plan due to the fact that they were in the midst of creating a new disaster recovery plan. However, they learned and are now prepared in case anything catastrophic happens again. These are some of the lessons that were learned from September 11th, 2001:

- Make sure your ISP’s primary and alternate routing do not go through the same company’s dial central office or major Internet point of presence facilities.
- Identify a disaster recovery (or application hosting) site independent from campus sites, with multiple ISPs.
- Ensure that the disaster recovery site hosts either your primary or secondary external DNS.
- Have strategic systems equipped with dial-up networking access and have a few notebook computers with non-university ISP access for loaners.
- If Internet goes down make sure that you obtain the virus updates and distribute using dial-up networking before the Internet comes back online.¹⁹

Other Company Changes

Verizon

Although seemingly successful, Verizon had a lot of damage. It was across from Building 7 which was destroyed in the late afternoon.

Verizon's West Street central office switch facility, which sits directly across from where World Trade Center Building 7 stood, was severely damaged. This site, which connected 200,000 voice lines and 3 million specialized private data lines, was pretty much out of commission. But with engineers at Ground Zero, Verizon had back-up switches and power supplies on the sidewalks in front of its West Street facility to get customers back online.

Lessons learned

Now because of better planning they will be able to minimize their losses in the future. Hopefully they won't or anyone for that matter, have to experience a catastrophic event again.

Asynchronous technology is being replaced by SONET. And many buildings, which formerly had copper connections, will now have fiber. There also won't be as much reliance on the company's damaged West Street central office. "We've had to increase the infrastructure in the other central offices with West Street down, and they will continue to take a heavier load in the future," says John Bell, senior vice president of network operations at Verizon.²⁰

Genuity

Genuity is an independent Investment Banking firm which had an unknown number of users that were disconnected from the internet because several ISP's had presence in the World Trade Center. Due to the internet's distributed nature, most users were able to maintain connectivity. One company, Genuity had lost connectivity and said that if were not for the help of Verizon it could not have been done. However, ISP dependency on local networks was a problem.

"In the past we would allow a data center to be homed to the same POP on our backbone if it made the most sense from a network efficiency perspective," Yetman says. "We didn't think it affected redundancy because we weren't thinking about losing a whole data center. We thought about routers going offline or a backhoe chewing up a fiber line."

"It didn't take much to map things differently," he says.

Lesson Learned

For better redundancy, the company redirected its OC-48 connections from its data centers and POPs to different routers on its network. There have been extra measures put in place, especially with high profile customers such as the United States Government, to ensure quick and easy service in case of a disaster. Government agencies will typically require additional circuits. At the same time, Genuity needs to be aware of the circuits that are used by hospitals and other emergency facilities and make sure that they are not

taken away for use by another client. On top of this, Genuity has developed an improved plan to locate and better contact their high profile customers when a disaster strikes.²¹

Summary

These companies may have learned the hard way in some sense but the lessons that they learned have made them stronger and better prepared in case any disastrous event should happen. We can only hope that nothing similar to September 11th, 2001 ever happens again. As we have learned, no matter how hard an organization plans it will never be fully prepared because anything can happen. However, the more prepared you are the easier it is to adapt to a new disaster if it should ever arise.

Conclusion

We have learned that September 11th, 2001 is a reality and it could happen again but we hope it never does. However it is important that the people in charge of contingency planning for their organization know what it is; some of the tools to implement it; and to take a look at examples from other company contingency plans to get a good idea of what should be expected. Besides other company strategic plans and historical experience there is a lot of information on contingency planning for the future and it is a good idea to research it because it is imperative that a company protect its people and other assets.

Dedication

This research paper is dedicated to the men, women who lost their lives on September 11th, 2001, as well as their families. Also this journal is dedication to all militants fighting to combat terrorism overseas.

Figure A - North Tower (1) Tenants

Building: 1 World Trade Center - North Tower

Tenant	Square Feet Leased	Industry	Floor
Alan Anthony	N/A	Business Services	
Royal Thai Embassy Office	N/A	Government	
NY Coffee Station	N/A		
Tes USA, Inc.	400	Financial Institutions	
Strawberry	7,106	Retailers/Wholesalers	CNCR
Ann Taylor Loft	7,200		CNCR
Delta Airlines	400	Transportation	LBBY
Olympia Airport Express	N/A		LBBY
Avis	N/A		LBBY
Port Authority of New York & New Jersey	22,411	Government	3,14,19,24,28,31
Geiger & Geiger	1,588	Law Firms	4,25,78
Gayer, Shyu & Wiesel	800	Accountants	5
Thai Farmers Bank	4,512	Financial Institutions	7
Amerson Group Co., Inc.	N/A	Personal Services	8

Bank of America	132,586	Financial Institutions	9-11,81
Porcella Vicini & Co.	2,200	Transportation	11
Primarch Decision Economics	4,954	Business Services	11
Instinet, Inc.	65,844	Financial Institutions	13,14
Dun & Bradstreet, Inc.	22,750	Personal Services	14
Landmark Education Corporation	44,407	Personal Services	15
Zim-American Israeli Shipping Co.	10,000	Transportation	17
Empire Health Choice	461,000	Insurance	17,19,20,23,24,27-31
Tower Computer Service	585	Retailers/Wholesalers	21,29
United Seamen's Service AMMLA	2,400	Personal Services	21
United Hercules Inc.	10,000	Transportation	21
Avesta Computer Services, Ltd.	1,464	Computers/Data Processing	21
Continental Logistics, Inc.	734	Personal Services	21
Dongwon Securities Co. Ltd.	1,171	Financial Institutions	21
Dr. Tadasu Tokumaru, M.D.	520	Medical	21
Friends Villas Fischer Trust	N/A	Financial Institutions	21
Friends Ivory & Sime, Inc.	13,262	Financial Institutions	21
Infotech	1,400		21
Law Offices of Roman V. Popik	586	Law Firms	21
Lief International USA	3,100	Manufacturing	21
Unicom Capital Advisors LLP	5,483	Financial Institutions	22,84
Chicago Options Exchange Corp.	3,608	Financial Institutions	22
Cheng Xiang Trading USA Inc.	1,900	Computers/Data Processing	22
G.C. Services	2,561	Financial Institutions	22
Gold Sky Inc.	421	Manufacturing	22
Kaiser Overseas Inc.	265	Manufacturing	22
Karoon Capital Management	991	Financial Institutions	22
MLU Investment	1,175		22
P. Wolfe Consultants	2,165	Business Services	22
The SCPIE Companies	2,582		22
Tai Fook Securities	1,500	Financial Institutions	22
R.H. Wrightson & Associates, Inc.	N/A	Financial Institutions	25
Garban-Intercapital	60,548	Financial Institutions	25,26
China Patent & Trademark USA	400	Law Firms	29
World Travel	25,000	Transportation	29
Banco LatinoAmericano de	3,000	Financial Institutions	32
Chang HWA Commercial Bank	12,182	Financial Institutions	32
Rohde & Liesenfeld, Inc.	5,000	Transportation	32
Berel & Mullen	2,786	Law Firms	33
China Daily Distribution Corp.	800	Personal Services	33
Data Transmission Network Corp.	342		33
Golden King (USA) Limited	190	Transportation	33
Hu Tong International (USA) Co., Ltd.	583	Retailers/Wholesalers	33
Koudis International Inc.	600	Transportation	33
MANAA Trading Group, Inc.	1,013	Financial Institutions	33
MIS Service Co.	2,000		33
Rachel & Associates, Inc.	814	Manufacturing	33
Serko & Simon	8,605	Law Firms	33
Anne Pope, Law Offices of	N/A	Law Firms	35

Kemper Insurance Companies	92,232	Insurance	35,36
Commodity Futures Trading Commission	35,000	Financial Institutions	37
Government of Thailand	5,109		37
Lehman Brothers	45,100		38-40
Regional Alliance Small	1,692	Business Services	38
Turner Construction Company	1,000	Agri/Mining/Utilities	38
The Cultural Institutions Retirement Systems	5,416	Financial Institutions	39
Overseas Union Bank, Ltd.	3,750	Financial Institutions	39
Xcel Federal Credit Union	4,200	Financial Institutions	39
Mechanical Floor	N/A		41-43
N.Y. Society of Security	3,000	Government	44
American Lota International	626	Transportation	45
China Construction America, Inc.	2,000	Business Services	45
The Company Store	800	Retailers/Wholesalers	45
Dunavant Commodity Corp	1,437	Financial Institutions	45
Employee Merit	763	Business Services	45
Fertitta Enterprises	600		45
M.A. Katz, CPA	400	Accountants	45
SRA	1,000		45
Pure Energy Corp.	5,935	Retailers/Wholesalers	45,53
Sassoons Inc.	1,000		45
Security Traders Association, Inc.	1,520	Personal Services	45
Streamline Capital, LLC	2,024		45
ASTDC, Inc.	3,760	Personal Services	46
Auto Imperial Co.	374	Retailers/Wholesalers	46
Blue Sky Technologies, Inc.	350	Computers/Data Processing	46
Can-Achieve	392	Business Services	46
Consolidated Steelex Corp.	2,277	Manufacturing	46
Dahao USA Corp	N/A	Retailers/Wholesalers	46
J & X Tans International	338	Transportation	46
Kanebo Information Systems Corp.	800	Computers/Data Processing	46
Meganet Management Consultants, Inc.	600	Computers/Data Processing	46
Prospect International, Inc.	966		46
Sinopec USA, Inc.	4,584	Retailers/Wholesalers	46
Suggested Open Systems, Inc.	600	Computers/Data Processing	46
Suntendy America, Inc.	1,000	Retailers/Wholesalers	46
T&T Enterprises International, Inc.	1,006	Financial Institutions	46
Yong Ren America, Inc.	394		46
G. Z. Stephens, Inc.	1,200	Business Services	47
NFA/GGG, Inc.	2,053		47
American TCC Int'l Group, Inc.	5,736	Financial Institutions	47,90
Pacific American Co.	4,753	Retailers/Wholesalers	47
Quint Amasis, L.L.C.	1,000	Personal Services	47
W.J. Export-Import, Inc.	800	Retailers/Wholesalers	47
Dai-Ichi Kangyo Trust Co.	100,000	Financial Institutions	48-50
AT&T Corporation	11,612	Communications	51
C & P Press	N/A	Personal Services	51
TradeWeb	N/A	Online trading	51

The Williams Capital Group	578		52
Bramax Manufacturing (USA) Corp.	800	Retailers/Wholesalers	52
Gayer Shyu & Wiesel	N/A	Financial Institutions	52
Hill Betts & Nash, LLP	21,609	Law Firms	52
Temenos USA, Inc.	6,000	Retailers/Wholesalers	52,84
Howly (US) Corporation	1,150		52
Leeds & Morrelli	1,617	Law Firms	52
Okasan International (American) Inc.	2,250	Financial Institutions	52
RGL Gallagher PC	984	Accountants	52
Richard A. Zimmerman, Esq.	1,150	Law Firms	52
A I G Aviation Brokerage, Inc.	2,500	Insurance	53
Bank of Taiwan	7,500	Financial Institutions	53
China Resource Products USA Ltd.	N/A		53
Keenan Powers & Andrews	4,500	Law Firms	53
LoCurto & Funk, Inc.	N/A	Financial Institutions	53
Natural Nydegger Transport Corp.	3,500	Transportation	53
Pacrim Trading & Shipping, Inc.	1,200	Transportation	53
Brown & Wood, L.L.P.	223,100	Law Firms	54,56-59
Pace University	45,943	Personal Services	55
World Trade Institute	N/A		55
Asahi Bank, Ltd.	40,000	Financial Institutions	60
Airport Access Program	N/A	Financial Institutions	63
Hal Roth Agency, Inc.	2,250	Insurance	77
Jun He Law Office, LLC	894	Law Firms	77
Martin Progressive LLC	13,789	Computers/Data Processing	77
New-ey International Corp.	894	Personal Services	77
Partner Reinsurance Corp.	N/A	Insurance	77
World Trade Centers Association	5,400	Personal Services	77
Avenir, Inc.	2,162	Computers/Data Processing	78
Baltic Oil Corporation	981		78
Cedar Capital Management Associates	909		78
Cheng Cheng Enterprises Holding Inc.	4,073	Retailers/Wholesalers	78
Hyundai Securities Co., Ltd.	1,600	Financial Institutions	78
International Trade Center, Inc.	3,298	Business Services	78
Korea Local Authorities	1,000	Government	78
Meridian Ventures Holding, Inc.	3,315		78
Phink Path	1,214	Business Services	78
Traders Access Center	1,027	Financial Institutions	78
Daynard & Van Thunen Co.	4,750	Insurance	79
First Liberty Investment Group	1,000	Financial Institutions	79
International Office Centers	26,367	Personal Services	79
Nikko Securities	9,340	Financial Institutions	79
Okato Shoji Company, Ltd.	2,729	Computers/Data Processing	79
Securant Technologies	2,729	Computers/Data Processing	79
Agricor Commodities Corp.	3,200	Financial Institutions	80
The Beast.Comm	21,000	Computers/Data Processing	80
Intrust Investment Realty, Inc.	3,320		80
Noga Commodities Overseas, Inc.	6,518	Financial Institutions	80

RLI Insurance Company	3,900	Insurance	80
Shizuoka Bank Ltd.	2,200	Financial Institutions	80
New Continental Enterprises	2,055	Transportation	81
Network Plus	8,500	Communications	81
NY Metro Transportation Council	7,000	Government	82
General Telecommunications	8,994		83
Global Crossings Holdings Ltd.	N/A	Computers/Data Processing	83
Lava Trading, LLC	7,589		83
Taipei Bank	12,111	Financial Institutions	83
eMeritus Communications	7,203	Communications	83
Bright China Capital, Ltd.	2,016	Financial Institutions	84
David Peterson	1,863	Law Firms	84
LG Securities America, Inc.	1,800	Financial Institutions	84
San-In Godo Bank Ltd.	2,000	Financial Institutions	84
Daehan International	1,200	Financial Institutions	84,89
SMW Trading Corp.	3,000	Financial Institutions	85
Thermo Electron	2,289		85
Julien J. Studley, Inc.	6,372	Real Estate	86
May Davis Group	12,824	Financial Institutions	87
Barclay Dwyer	12,211		89
Broad USA, Inc.	N/A	Retailers/Wholesalers	89
CIIC Group (USA), Ltd.	2,500	Financial Institutions	89
Drinker Biddle & Reath	10,000	Law Firms	89
Metropolitan Life Insurance Co.	7,119	Insurance	89
Mutual International Forwarding	1,200	Transportation	89
Strategic Communications, Inc.	2,400	Communications	89
Wai Gao Qiao USA, Inc.	1,528	Business Services	89
Wall Street Planning Association	2,154		89
The Chugoku Bank, Ltd.	1,500	Financial Institutions	90
American Bureau of Shipping	8,400	Engineers	91
Fred Alger Management	36,078	Investments	93
Marsh USA	361,000	Insurance	93-100
Kidder Peabody & Co.	N/A		101
Cantor Fitzgerald Securities	22,000	Investments	101-105
The Nishi-Nippon Bank, Ltd.	10,325	Banks/Financial Institutions	102
Channel 4 (NBC)	400	Cable/Television	104
Windows on the World	40,000		106
Greatest Bar on Earth	13,333		107
World Trade Club	13,333		107
Channel 5 (WNYW)	200	Cable/Television	110
Channel 31 (WBIS)	1,400	Cable/Television	110
Channel 47 (WNJU)	800	Cable/Television	110
Channel 2 (WCBS)	400	Cable/Television	110
Channel 11 (WPIX)	400	Cable/Television	110

Figure B – South Tower (2) Tenants

Building: 2 World Trade Center - South Tower

Tenant	Square Feet Leased	Industry	Floor
Continental Insurance Company	40,000		
CINDE	N/A		
Xerox Document Company	5,400	Manufacturing	BSMT
Johnston & Murphy	N/A		CNCR
Nichols Foundation, Inc.	1,000	Government	GRND
Verizon Communications	155,490	Communications	LL,9-12
Colortek Kodak Imaging Center	731	Personal Services	1
EuroBrokers, Inc.	32,104	Financial Institutions	12
Union Bank of California	25,146	Financial Institutions	14
Patinka International (USA) Inc.	N/A	Personal Services	14
Charma Chemicals, Inc.	N/A	Manufacturing	14
Paging Network of New York	19,203	Communications	14
Mancini Duffy	28,091	Engineers/Architects	15,22
Candia Shipping	1,600	Retailers/Wholesalers	15
John W. Loofbourrow Associates, Inc.	1,807	Financial Institutions	15
John J. McMullen Associates, Inc.	15,000	Engineers/Architects	15
Orient International	N/A		15
James T. Ratner, Law Office of	N/A	Law Firms	15
National Development & Research Institute	44,325	Personal Services	16
N.Y. Institute of Finance	24,539	Business Services	17
Showtime Pictures	5,470	Business Services	18,107
Professional Assistance & Consulting	1,163	Business Services	18
Intera Group Inc.	1,180	Business Services	18
Alliance Consulting	N/A	Business Services	18
Pines Investment, Inc.	N/A		18
Caserta & Company	N/A		18
Law Offices of Abad, Castilla, and Mallonga	N/A	Law Firms	18
Weiland International	1,000	Financial Institutions	18
Chen, Lin, Li, & Jiang, LLP	1,994	Financial Institutions	18
Waterfront Commission of New York Harbor	2,000	Government	19
N.Y. Shipping Association	80,000	Transportation	19,20
Thacher, Proffitt & Wood	120,000	Law Firms	20,38-40
Career Engine	7,183	Personal Services	21
Adecco SA	2,000	Business Services	21
Charoen Pokphand USA, Inc.	2,000	Transportation	21
Sinochem American Holdings, Inc.	N/A	Financial Institutions	22
Washington Mutual, Inc.	1,117		22
Antal International, Inc.	2,086	Business Services	22
SCOR U.S. Corporation	59,000	Insurance	23,24
Unistrat Corporation of America	10,000	Business Services	23
Allstate Insurance Company	N/A	Insurance	24
TD Waterhouse Group, Inc.	18,591	Financial Institutions	24
China Chamber of Commerce, Inc.	N/A	Personal Services	24
Globe Tour & Travel	N/A	Transportation	24
Sinolion (USA)	694		24
December First Productions, LLC	821		24
Sun Microsystems, Inc.	89,162	Computers/Data Processing	25,26

New York Stock Exchange, Inc.	10,853		28-30
Big A Travel Agency	N/A	Transportation	28
Law Office of Joseph Bellard	3,400	Law Firms	28
Hua Nan Commercial Bank Ltd.	12,500	Financial Institutions	28
Weatherly Securities Corp.	18,801	Financial Institutions	29
Hartford Steam Boiler	1,600	Insurance	30
Oppenheimer Funds, Inc.	231,000	Financial Institutions	31,32
Commerzbank Capital Markets	45,540	Financial Institutions	32
ABN-AMRO, Inc.	40,000	Financial Institutions	35
Frenkel & Company, Inc.	59,670	Insurance	35,36
Sitailong International USA, Inc.	N/A		40
Morgan Stanley	840,000	Financial Institutions	43-46,56,59-74
Guy Carpenter	320,000	Insurance	47-54
Seabury & Smith	40,000	Insurance	49
Garban Intercapital	N/A		55
Dow Jones & Company, Inc.	72,133	Communications	57,58
First Commercial Bank	4,500	Financial Institutions	78
Fuji Bank	182,956	Financial Institutions	79-82
bepaid.com	N/A		84
Harris Beach & Wilcox, LLP	48,800	Law Firms	85
Keefe, Bruyette & Woods	97,600	Financial Institutions	85,88,89
NY State Department of Taxation & Finance Corporation Service Company	73,982	Government	86,87
Fiduciary Trust Company Intl.	22,916		87
Gibbs & Hill	245,156	Financial Institutions	90,94-97
Washington Group Intl.		Engineers	91
Raytheon Company	48,800	Engineering	91
AON Corporation	48,800	Manufacturing	91
Regus Business Centres	219,133	Insurance	92,99,100
Sandler O'Neil & Partners	49,028	Employment Agencies	93
Atlantic Bank of New York	30,000	Investments	104
	50,061	Banks/Financial Institutions	106

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Figure C – Building 4 Tenants

Building: 4 World Trade Center - Commodities Exchange Center

Tenant	Square Feet Leased	Floor	Industry
Deutsche Bank			
New York Board of Trade	273,991	4,5,6	Financial Institutions
Overseas-Chinese Banking Corp.	125,000	7,8,9	Government
Green Coffee Association	6,516	7	Financial Institutions
Gelderman, Inc.	7,500	5	Personal Services
Tony May's Gemelli Restaurant & Bar	4,000	7	Personal Services
	10,000	GRND	Retailers/Wholesalers

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Figure D – Building 5 Tenants

Building: 5 World Trade Center - Northeast Plaza

Tenant	Square Feet Leased	Floor	Industry
JP Morgan Chase & Co.	N/A	1	Financial Institutions
FedEx Corporation	N/A	1	Transportation
The Charles Schwab Corporation	N/A	CNCR	Financial Institutions
Morgan Stanley	325,200	4,5,6	Financial Institutions
Credit Suisse First Boston	179,244	7,8,9	Financial Institutions
US Airways	400		Transportation
Sam Goody	4,000	CNCR	Retailers/Wholesalers
American Airlines	N/A	CNCR,PLAZ	Transportation
Lower Manhattan Cultural Council	4,467	9	Personal Services
Howard Publications, Inc.	1,180	9	Manufacturing
Council of State Governments	N/A	9	Government
Children's Discovery Center	N/A	PLAZ	Personal Services
Affiliated Physicians of St. Vincent	6,250	3	Medical
NYS Court of Claims	24,909	8	Government
World Trade Center Dental Group	4,500	3	Medical
DHL Courier Services	N/A	1	
Perfumeria Milano	1,200	CNCR	Retailers/Wholesalers
American Shipper Magazine	N/A	9	Manufacturing
Express Mail	N/A		Government
Our Planet Mgmt. Institute, Ltd.	5,500	9	Personal Services
Hunan Resources & Tech. Institute	N/A	9	
Hon. Christopher J. Mega	N/A	8	
Daniel Pehr, Inc.	1,000	LBBY	Personal Services
Borders Books & Music	N/A	PLAZ	Retailers/Wholesalers
Continental Forwarding	N/A	8	Transportation

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Figure E – Building 6 Tenants

Building: 6 World Trade Center - U.S. Customs House

Tenant	Square Feet Leased	Floor	Industry
U.S. Department of Commerce	4,500	6	Government
BATF (Alcohol Tobacco & Firearms)	1,200	2,6	Government
U.S. Department of Agriculture - AAPHIS	N/A	2	Government
U.S. Department of Labor	10,200	6	Government
Export-Import Bank of the U.S.	N/A	6	Financial Institutions
Eastco Building Services	N/A		

Figure F – Building 7 Tenants

Building: 7 World Trade Center

Tenant	Square Feet Leased	Floor	Industry
Salomon Smith Barney	1,202,900	GRND, 1-6, 13, 18-46	Financial Institutions
Internal Revenue Service Regional Council	90,430	24, 25	Government
U.S. Secret Service	85,343	9, 10	Government
American Express Bank International	106,117	7, 8, 13	Financial Institutions
Standard Chartered Bank	111,398	10, 13, 26, 27	Financial Institutions
Provident Financial Management	9,000	7, 13	Financial Institutions
ITT Hartford Insurance Group	122,590	19-21	
First State Management Group, Inc	4,000	21	Insurance
Federal Home Loan Bank	47,490	22	Financial Institutions
NAIC Securities	22,500	19	Insurance
Securities & Exchange Commission	106,117	11, 12, 13	Financial Institutions
Mayor's Office of Emergency Mgmt	45,815	23	Government

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Time Line

The following are the events of September 11th, 2001

7:59 AM: American 11 from Boston's (Massachusetts) Logan International Airport is bound (nonstop) for Los Angeles, CA.

8:14 AM: United 175 from Boston's (Massachusetts) Logan International Airport is bound (nonstop) for Los Angeles, CA.

8:20 AM: American 77 from Washington (D.C.) Dulles International Airport is bound (nonstop) for Los Angeles, CA.

8:42 AM: United 93 from Newark (New Jersey) Liberty International Airport is bound for San Francisco, CA.

8:46:40 AM: American 11 crashes into the North Tower (Building 1) of the World Trade Center, cutting through floors 93 to 99. Everyone on board is killed instantly along with many on those floors. Everything from the 92nd floor and up was determined to be impassable.

9:03:11 AM: United 175 crashes into the South Tower (Building 2) of the World Trade Center, cutting through floors 77 to 85. Everyone on board is killed instantly along with many on those floors. The plane banked in a way that left parts of the impact floors undamaged. It was determined that one of the stairwells (A) was left intact.

9:37:46 AM: American 77 crashes into the Pentagon killing everyone aboard and many inside the pentagon.

9:59 AM: The South Tower collapses. All civilians and personnel inside are killed, along with first responders and civilians in the concourse, Marriott and neighboring streets.

10:03:11 AM (Time Controversial): United 93 plows into an empty field in Shanksville, PA. Everyone on board is killed.

10:28:25 AM: The North Tower collapses. Everyone on the floors above the 91st was killed along with an undetermined amount below the 91st floor as well as first responders.²⁸

Death Toll

Total Killed: 2,973 (Not including the 19 hijackers, and not the 24 that are missing and presumed dead)

American 11: 87 (Not including the 5 hijackers)

United 175: 60 (Not including the 5 hijackers)

American 77: 59 (Not including the 5 hijackers)

United 93: 40 (Not including the 4 hijackers)

Fired Department of New York City (FDNY): 343

Port Authority Police Department (PAPD): 37

New York Police Department (NYPD): 23

World Trade Center (Entire Complex): 2,324²⁹

*¹ Whitman, M, & Mattord, H (2004). *Management of Information Security*. Boston: Thomson.

*² Jaworski , L (2006). Contingency Planning: Lesson Learned from the 9/11 Tragedy. *Storage, N/A*, Retrieved June 26, 2007, from <http://www.samag.com/documents/s=9364/sam0411d/0411d.html>

³ Messmer, E (2002, December 2). MasterCard Factors 9/11 into Disaster Recovery Plan. Retrieved June 26, 2007, from MasterCard Factors 9/11 into Disaster Recovery Plan - Network World Web site: <http://www.networkworld.com/news/2002/1202mastercard.html>

*⁴ Jaworski , L (2006). Contingency Planning: Lesson Learned from the 9/11 Tragedy. *Storage, N/A*, Retrieved June 26, 2007, from <http://www.samag.com/documents/s=9364/sam0411d/0411d.html>

*⁵ Jaworski , L (2006). Contingency Planning: Lesson Learned from the 9/11 Tragedy. *Storage, N/A*, Retrieved June 26, 2007, from <http://www.samag.com/documents/s=9364/sam0411d/0411d.html>

⁶ Ohlson, K (2001, November, 26). Planning for the Worst: Bring in the Best. *NetworkWorld*, Retrieved July 2, 2007, from <http://www.networkworld.com/research/2001/1126featside5.html>

⁷ Fontana, J, & Conner, D (2001). Disaster Recovery Then and Now. *NetworkWorld*, Retrieved July 2, 2007, from <http://www.networkworld.com/research/2001/1126featside1.html>

*⁸ Jaworski , L (2006). Contingency Planning: Lesson Learned from the 9/11 Tragedy. *Storage, N/A*, Retrieved June 26, 2007, from <http://www.samag.com/documents/s=9364/sam0411d/0411d.html>

⁹ Pappalardo, D, & Marson, C (2001). How Ready are the Nation's Networks?. *NetworkWorld*, Retrieved July 2, 2007, from <http://www.networkworld.com/research/2001/1126featside3.html>.

*¹⁰ Jaworski , L (2006). Contingency Planning: Lesson Learned from the 9/11 Tragedy. *Storage, N/A*, Retrieved June 26, 2007, from <http://www.samag.com/documents/s=9364/sam0411d/0411d.html>

¹¹ Gaudin, S (2001, November 26). Lehman Brothers' network survives. *NetworkWorld*, Retrieved July 2, 2007, from <http://www.networkworld.com/research/2001/1126feat.html>

¹² Pappalardo, D & Marson, C (2001, November 11). How Ready are the Nation's Networks. Retrieved June 25, 2007, from How Ready are the Nation's Networks Web site: <http://www.networkworld.com/research/2001/1126featside3.html>

¹³ Gaudin, S (2001, November 26). Lehman Brothers' network survives. *NetworkWorld*, Retrieved July 2, 2007, from <http://www.networkworld.com/research/2001/1126feat.html>

-
- *¹⁴ Jaworski , L (2006). Contingency Planning: Lesson Learned from the 9/11 Tragedy. *Storage, N/A*, Retrieved June 26, 2007, from <http://www.samag.com/documents/s=9364/sam0411d/0411d.html>
- *¹⁵ Jaworski , L (2006). Contingency Planning: Lesson Learned from the 9/11 Tragedy. *Storage, N/A*, Retrieved June 26, 2007, from <http://www.samag.com/documents/s=9364/sam0411d/0411d.html>
- ¹⁶ Messmer, E (2002, December 2). MasterCard Factors 9/11 into Disaster Recovery Plan. Retrieved June 26, 2007, from MasterCard Factors 9/11 into Disaster Recovery Plan - Network World Web site: <http://www.networkworld.com/news/2002/1202mastercard.html>
- *¹⁷ Jaworski , L (2006). Contingency Planning: Lesson Learned from the 9/11 Tragedy. *Storage, N/A*, Retrieved June 26, 2007, from <http://www.samag.com/documents/s=9364/sam0411d/0411d.html>
- *¹⁸ Ranum, M (2004). *The Myth of Homeland Security*. Indianapolis, IN: Wiley Publishing, Inc.
- *¹⁹ Monaco, F (2001). IT Disaster Recovery Near the World Trade Center. *Educause Quarterly*. 4, 4-7.
- ²⁰ Pappalardo, D & Marson, C (2001, November 11). How Ready are the Nation's Networks. Retrieved June 25, 2007, from How Ready are the Nation's Networks Web site: <http://www.networkworld.com/research/2001/1126featside3.html>
- ²¹ Pappalardo, D & Marson, C (2001, November 11). How Ready are the Nation's Networks. Retrieved June 25, 2007, from How Ready are the Nation's Networks Web site: <http://www.networkworld.com/research/2001/1126featside3.html>
- ²² CNN.COM, (2001). List of World Trade Center tenants. Retrieved June 21, 2007, from CNN.COM Specials Web site: <http://www.cnn.com/SPECIALS/2001/trade.center/tenants1.html>
- ²³ CNN.COM, (2001). List of World Trade Center tenants. Retrieved June 21, 2007, from CNN.COM Specials Web site: <http://www.cnn.com/SPECIALS/2001/trade.center/tenants2.html>
- ²⁴ CNN.COM, (2001). List of World Trade Center tenants. Retrieved June 21, 2007, from CNN.COM Specials Web site: <http://www.cnn.com/SPECIALS/2001/trade.center/tenants4.html>
- ²⁵ CNN.COM, (2001). List of World Trade Center tenants. Retrieved June 21, 2007, from CNN.COM Specials Web site: <http://www.cnn.com/SPECIALS/2001/trade.center/tenants5.html>
- ²⁶ CNN.COM, (2001). List of World Trade Center tenants. Retrieved June 25, 2007, from CNN.COM Specials Web site: <http://www.cnn.com/SPECIALS/2001/trade.center/tenants6.html>
- ²⁷ CNN.COM, (2001). List of World Trade Center tenants. Retrieved June 25, 2007, from CNN.COM Specials Web site: <http://www.cnn.com/SPECIALS/2001/trade.center/tenants7.html>
- *²⁸ Falk, Alice (Ed.). (2004). *9/11 Commission Report*. New York, NY: Barnes & Noble Publishing, Inc.
- *²⁹ Falk, Alice (Ed.). (2004). *9/11 Commission Report*. New York, NY: Barnes & Noble Publishing, Inc.