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Manufacturers Hanover Trust - Computer Risk Management Group, Technical Risk Manager

As Computer Risk Management Officer I was responsible for identifying potential losses associated with disaster exposures and for recommending solutions to mitigate the Risk Exposure. Among the recommendation that I was associated with were the creation of Emergency Power Generation via three diesel engines mounted at 55 Water Street, the creation of a relationship with Comdisco to open a recovery facility in Carlstadt, NJ and the implementation of formal Risk Management Standards and Procedures. Also, my group was a founding member of the NY Downtown Contingency Group with other organizations in the NYC area (i.e., Merrill Lynch, Chemical Bank, Citibank, etc.). The requirement to join this group was a 360 model 65 computer, or greater. Merrill Lynch donated floor space and the group configured the first mainframe dedicated to processing disaster recovery job streams.

Unfortunately, this group was doomed from the beginning, because growth within each organization made it almost impossible to keep configurations and required equipment available for all concerned. As a result of this knowledge, all of the companies decided to create separate recovery facilities for themselves, while we pursued the Comdisco relationship (they we our hardware leasing firm as well).

I performed Physical and Data Security studies and developed Disaster Recovery requirements for our data processing facilities, defining computer and peripheral device requirements needed to support critical workloads at remote Disaster Recovery Sites. We also identified all data files needed to safeguard workloads and established Tape Backup, Recovery, and Vaulting procedures to protect data files.

Once all this information was accumulated, we realized that our hardware leasing firm, Comdisco, had all of the equipment we needed sitting idle at their Carlstadt, NJ location (a site we shared with Comdisco). We then negotiated with Comdisco to use their equipment at the Carlstadt site in the event of a disaster. This actually was the reason behind Comdisco's getting into the Disaster Recovery business.

Chemical Bank - Technical Contribution to D/R Planning

Performed Capacity and Performance Management services and was responsible for Disaster Recovery configuration at recovery site. Planned data file layouts, calculated data file sizing, and calculated resources needed to support Disaster Recovery facilities. I was involved with negotiating disaster recovery contract for Comdisco recovery facility.

Computer Science Corporation audit of Midland Bank in England

I was recruited to join this team, which was chartered to perform an audit of the Midland Bank environment throughout all of its locations in England. My responsibilities included: MVS Operating System, Communications, IT Security and Disaster Recovery, Applications Testing, and Quality Assurance. The project lasted 5 months and resulted in the implementation of Arthur Anderson's Project One Project Management System, improved IT Security and Disaster Recovery. We planned and assisted in the creation of a state-of-the-art Disaster Recovery Facility with redundant fencing and man-trap truck entrance facilities, along with better job documentation and turnover procedures that guaranteed adherence to Disaster Recovery requirements. During this project, we reported to the Board of Directors and had to provide monthly status presentations to them.

IBM Business Recovery - Sales and implementation consulting

As an independent Sales Agent I performed sales for IBM Business Recovery services and brought Chase Bank, Citibank Retail Banking, and Salomon Brothers to IBM as potential clients.

Unfortunately, IBM was not flexible enough to close contracts, but as a result of their loss, IBM asked me to provide an analysis of why they lost deals. This analysis resulted in IBM developing better sales literature for Business Recovery, an increase in commission for IBM Sales personnel who bring

Disaster Recovery contracts to the table, and a better procedure for responding to client Disaster Recovery requests. Unfortunately, it was too late for me to make a commission on loss deals and I moved on to other assignments.

NY Stock Exchange and SIAC – Manager of Systems Programming Group with EDP Security and Disaster Recovery Planning responsibilities including:

I provided Systems Programming Services to SIAC users, including the American Stock Exchange and the New York Stock Exchange users. Responsible for performing IT Security, Disaster Recovery, and EDP Security, as well as normal Systems Programming functions. I implemented the first IT Security system to protect user programs and data resources. Resolved many outstanding problems and performance flaws while in this position, resulting in a dramatic increase in productivity.

RMJ Securities - Risk Analysis and Disaster Recovery Planning

This project was initially concerned with performing a Risk Assessment of the RMJ Securities trading environment and data processing support structure, but it evolved into an "Electronic Trading" and "Disaster Recovery" planning project. Manual trading was the norm for RMJ Securities and they were concerned about optimizing performance, safeguarding information, and recovering from encountered problems that may lead to a disaster. I performed the initial Risk Assessment and located problem areas that were addressed in the Disaster Recovery Plans that were generated. Electronic Trading recommendations were developed and presented to RMJ Securities management for later implementation.

United Nations - Embassy Library Management System and Business Recovery

This consulting project was responsible for two objectives. The first was to create an online system that would allow the 160 remote locations throughout the world that could access information contained within the United Nations Library and its various online systems and databases. Once created, these remote sites were connected to the United Nations mainframe environment, thereby allowing them to access UN information directly instead of having to request information and wait for its delivery via ground mail. After completing this project, I was asked to develop and implement Disaster Recovery Plans for the sites (including such locations as the Atomic Energy Commission, and many UN Office locations both locally and throughout the world). Plan formats were created and distributed to business locations, where they were completed and coordinated with central site operations. These templates were mail merged with Word documents to create Disaster Recovery Plans.

Docu/Text and Automated Disaster Recovery - Sales and Consulting

Provided a wide-range of sales and consulting services to the general NYC area. Services included job analysis, verification, documentation, and turnover via integration of job documentation with online viewing services to facilitate ease of use and improved productivity. I was responsible for the creation of Disaster Recovery Plans and documentation, and the integration of all materials within company data repositories that could be utilized by personnel and support structures. I made numerous presentations to many companies on Disaster Recovery and Automated Job Documentation, which led to consulting and sales contracts. I utilized the Job/Scan and Docu/Text product, in conjunction with Endeavor, to automate job turnover at numerous client locations.

European American Bank - Communications Management Controller (CMC) and Disaster Recovery Planning

My first project at EAB was to develop a Communications Management Controller (CMC) to perform application load balancing and automated recovery within a five mainframe system environment. User's used Applid / Userid / Pswd to gain access to applications. The CMC was utilized to connect users to the mainframe housing their desired application and with the fewest active users. When a mainframe was lost, its application users were automatically switched to a secondary mainframe for continued processing. Since no data was lost (because back-end data bases and files were connected to all mainframes and unaffected) the user connection could be re-bound (Physical Unit

was customer's Terminal and Logical Unit was Application) and the outage appeared transparent to the end-user. Single point-of-failure problems related to the communications system were eliminated via secondary paths automatically activated through Netview (an IBM product) programmed routines. We were able to develop "canned" Netview Recovery Routines that were activated when specific failures occurred. These routines were activated to vary failing components off-line, vary secondary units online, re-bind the communications session, and generate trouble reports to dispatch technicians to correct problems. Through these procedures and products, it was possible to catch problems as they occurred, take corrective circumventions, and log failures automatically, all without severe interruptions to business operations and mostly transparent to end-users, thereby resulting in a great improvement in availability and productivity.

When the CMC project was completed, I implemented the Systems Management Disciplines of Problem Management, Change Management, Help Desk, Operations Command Center, Network Command Center, and Contingency Command Center. My final assignment was to complete a Five Year Business Plan for the IT Division of the bank. This project included: documenting job functions, workflow, systems development life cycle, job descriptions, and project management related to new developments, enhancements, and problem resolutions.

American International Group (AIG) - Audit Department Disaster Recovery Plan

Developed and implemented Disaster Recovery Plan for the EDP Audit Department of AIG for three years in a row by creating, testing, and updating the recovery plan as needed. Trained Audit Department personnel on the recovery plan operation, support, and maintenance procedures.

ADP Disaster Recovery Plan (Brokerage in Roseland and Proxy in Deer Park, LI)

Provided Disaster Recovery Plan development for major ADP locations (Brokerage in Journal Square, NJ, ADP Corporate in Roseland, NJ with its regional support and distributed sites, and ADP Proxy Services in Deer Park, NY) in addition to providing consulting services to the President of ADP Brokerage associated with the merger of the ADP Proxy Services organization with Independent Elections Corporation of America. The merger assignment required me to merge the two companies into a new \$9.3 million site in Deer Park, LI.

Chase Manhattan Bank (2000 Marcus Avenue) Disaster Recovery Plan (multiple sites)

I developed procedures for validating and documenting job streams scheduled to migrate from 2000 Marcus Avenue to 1985 Marcus Avenue. In the process of implementing this procedure, Disaster Recovery and EDP Security procedures were developed and implemented as well. These plans served as a foundation for other Business Continuity Plans implemented throughout Chase Bank.

Citibank (Retail Banking Division) Disaster Recovery Plan

Implemented Automated Job Turnover via Docu/Text and Endeavor and documented and trained staff on products. I also provided Electronic Vaulting and Periodic Vaulting services by working with the Systems Programming group to implement bulk data transfer and network data mover procedures for online shadowing and system Log file transfer procedures. These products and procedures allowed Citibank to maintain recovery data in a ready standby mode (shadowing) or in a periodic backup mode (log file transfers).

Lehman Brothers in NJ - Audit, Standards & Procedures Manual, Disaster Recovery Plan

As a subcontractor to IBM Global Services, I headed a Standards and Procedures project, implemented Job Standards (Batch and On-Line), Help Desk operations, Network Control Center operations, Operations Control Center procedures, Contingency Command Center procedures, and Crisis Management procedures, along with Disaster Recovery and IT Security standards and procedures. I also developed and implemented complete Standards and Procedures Manual for the entire Lehman MIS Department. All of these activities were in support of Lehman Brothers separation from EF Hutton.

Alternate Site Supplier Study to eliminate "Single Point of Failure" conditions

This study was initially performed for 111 Eight Avenue and was responsible for providing alternate communications suppliers to building tenants. The goal of the project was to license a secondary communications provider to deliver communications lines via an alternate entry point to the building. Client communications was split between the two suppliers (without changing phone numbers) to half their exposure to a communications outage, all without being exposed to a potential outage.

As a result of this project, building tenants were provided with a higher degree of safety against communications failures related to the vendor or the physical entry point of communications to the building. The clients did not have to pay increased rates for communications services in order to achieve this goal, and in some cases had their bills lowered. The building management firm was able to profit from this project by serving as billing agent for the phone company, receiving over \$200,000 per year from the arrangement. After performing this study for 111 Eight Avenue, we performed the same study for other clients (including General Motors building at Fifth Avenue in NYC).

Automated Disaster Recovery utilizing Docu/Text and Endeavor

By incorporating the Docu/Text and Endeavor products, it was possible to automate the job turnover process on mainframe computers. This process worked in multiple steps by first utilizing Job/Scan (a Docu/Text module) to verify that jobs adhered to standards. If successful (condition code 0), then the Endeavor job step was used to move components from test to production. Docu/Text was used to define the components included within the Disaster Recovery job stream and to incorporate Job Runbooks within Job Documentation (both online and via hard copy reports). The use of these products resulted in productivity enhancements and a higher quality of job information, which aided recovery planning.

Security Pacific Risk Asset Management - division Creation for Security Pacific

I was responsible for developing a separate division within the Security Pacific organization to provide Disaster Recovery services to the general community. This division was responsible for providing Risk Management, Disaster Recovery, Business Continuity, and IT Security functions to the NY City Security Pacific locations and outside clients within the general NYC area.

Zurich Depository Corporation (ZDC) - DR Consulting and Vaulting Services

I sold Off-Site Tape Vaulting and DR Professional services to NYC area clients. Also provides consulting services to Zurich clients.

Automated Vaulting - Electronic Vaulting (Mirroring / Shadowing) and Periodic Vaulting (online systems)

DCAG was one of the first companies to utilize Electronic Vaulting through the Network Data Mover (NDM) and Bulk Data Transfer (BDT) products. Electronic Vaulting and Periodic Vaulting was integrated within online systems like CICS, through Triggers relating to the number of records sent to Log files or when Timer Pops occurred (record count or time period logging). Whenever these thresholds were reached, the Log File was switched, de-allocated, and its records sent to the alternate site (where they were merged with the Old Master file). These procedures provided a higher level of protection to Business Critical data and facilitated both real-time and rapid recovery procedures.

Integrating Disaster Recovery Plans with Help Desk to activate Recovery Plans as needed:

Since Disasters are no more than problems that affect critical business components and upset business operations, it stands to reason that Disaster Recovery Plans be integrated within the Help Desk, so that when problems are reported and/or escalated, the corresponding Disaster Recovery Plan can be activated. To accomplish this goal requires that Production Turnover and Change Management procedures be modified to include Disaster Recovery Planning for critical applications. DCAG consulting accomplished this process for many of its clients many years ago and was one of the companies that pioneered this area.

DCAG Disaster Recovery Consulting Services including:

Business Impact Analysis (BIA) or Risk Assessment (RA) studies to determine exposures and define recovery plan requirements; Data Sensitivity Studies to define Criticality and Access Controls; Vital Records Management; Disaster Recovery Plan creation; Crisis Management and Help Desk procedures; Standards and Procedures creation and documentation; and Training. DCAG has provided these services to many client companies already and is always seeking additional clients.

Sandoz Pharmaceutical Corporation - Vital Records Management, Tape Library Audit, and Disaster Recovery Review.

Merged multiple dissimilar data centers into a single facility; complete review of existing IT Security and Vital Records Management; audited local, offsite, and remote tape vaults; upgraded IT Security, Tape Library Management and Vaulting procedures, Disaster Recovery Planning, incorporated Recovery Plans in Help Desk operations to optimize recovery times.

Dun & Bradstreet – Tape Vaulting Audit and the use of Encryption to protect Tapes in Transit

Performed an audit of how tapes are transferred between the Dun & Bradstreet location and the Tape Vaulting vendor's off-site location. This study was commissioned because of the many incidents of tapes being lost in transit and the impact caused by these incidents on the company and its clients, whose personal information was exposed to Identity Theft. As a result of this study Dun & Bradstreet incorporated the use of encryption for tapes being transferred to remote locations, because it was proved impossible to guaranty that a tape would not be lost in an accident or other incident. This process guaranteed that client data was safeguarded and because the new breed of encryption devices added little or no overhead performance was not impacted.

Bank of America – LDRPS Conversion Project for General Business and Financial Services Division.

I worked as the NYC lead consultant responsible for the conversion of current Bank of America Business Recovery Plans to the LDRPS Release 10 program product from Strohl / SunGard. I was responsible for the General Business and Financial Services Line of Business, where I had to: locate the latest release of the Business Continuity Plan for each of over 160 locations world-wide; develop a Baseline to judge the current plans ability to support Recovery Operations; agree upon Gaps and Exception guidelines and resolutions, develop LDRPS Plan format / content in association with the end-user; convert old recovery plans to LDRPS; publish LDRPS Plans, obtain review and approval of LDRPS Plans, and define and deliver training to end-users on recovery planning and the LDRPS product. After Bank of America was converted, my project was scheduled to continue with the same project objective at Merrill Lynch and other newly acquired companies. The goal of this assignment is to insure that all components of Bank of America use the same Business Continuity product and are trained on similar recovery procedures.

I additionally proposed that the Bank of America implement Enterprise Resiliency to combine recovery operations and create a common recovery language and toolset to optimize recovery operations. I also recommended that they seek Corporate Certification in Business Recovery so that they are in compliance with the recovery management laws of the countries that they do business in. This was suggested so that the Emergency Management function could develop First Responder, Emergency Operations Center, and Recovery Responses that included all of the recovery tools and procedures from every recovery function in the organization (e.g., Business Recovery, Disaster Recovery, Crisis Management, Workplace Violence Prevention, and Risk Management, etc.), while coordinating recovery operations with city, state, and national recovery organizations world-wide.

Enterprise Resiliency and Corporate Certification

After leaving Bank of America, I wrote a book, executive presentation, and magazine articles on how to "Achieve Enterprise Resiliency and Corporate Certification" by combining Emergency Management, Business Continuity, and Workplace Violence Prevention while complying with international and

domestic Corporate Compliance requirements (BS25999, NFPA 1600, ISO22313, ISO22318, CERT, and Private Sector Preparedness Act). The goal of this project was to develop a global understanding of recovery planning with a common language and common tools for the many Recovery Management disciplines to optimized recovery operations and the best protection for employees, clients, suppliers, and business operations. It addresses Incident and Problem Management techniques that reduce Crisis Level or Disaster Level events. Starting with a solid requirements foundation and utilizing industry Best Practices (COSO, CobIT, ITIL, ISO27000, FFIEC, etc.) this paper goes on to outline a Business Plan and Project Plans to help guide the development and implementation of Enterprise Resiliency and Corporate Certification by defining Work Flow requirements, Functional Responsibilities, Job Descriptions, and Standards and Procedures for personnel to follow. The Association of Contingency Planners has invited me to provide an Executive Presentation on this material and the book I created is now over 250 pages and being reviewed for publishing by Rothstein Associates, Inc. The article has been published by industry magazines. I am convinced that this is the direction that recovery management is headed because of its many benefits.

Application Migration Guideline Document

Assisted in developing a migration and data center consolidation plan for a large financial organization using ADDM, WireSharp, CiRBA, AppScan Secure Application Development and Real-Time protections, ADDM, WireShark, Dell x86, VMware vSphere 5, IBM P7 AIX, EMC SAN, NetApp NAS, Cisco Networking, and CiRBA to provide workload balancing and data center optimization.

I also provided oversight in selecting tools and developing project plan for selecting migration application groups and their components to be migrated to new data center and the testing procedures to validate a successful migration.

Association of Contingency Planners

Was invited to join the ACP Board of Directors (Largest organization of its kind) and to assume the role of Director of Vendor Relations where I was responsible for recruiting vendors to join the ACP as a Sponsor. These companies would be able to network with our members and sell their products and services through tables provided at our monthly meeting. I am responsible for ensuring that vendors addressed supply chain management and recovery guidelines that would provide their clients with a heightened level of protection from disaster events.

Data Center Assistance Group, Inc. – Consulting, Sales, and Training services

Provided consulting and sales agent services to client organizations including: management and technical consulting; workflow analysis; organizational structure definition; job function definition and job description writing; data center requirements definition; implementation, consolidation, migration, and termination; disaster recovery/business continuity planning; project/systems management; productivity improvements; system/business analysis; documentation; training, and recruiting / placement of personnel for permanent/consulting positions. Defined and implemented the Systems Development Life Cycle from Development through Production Acceptance, Support, Maintenance, Configuration Management, and Release Management. Defined documentation and support requirements and insured that Testing and Quality Assurance procedures guaranteed that all required documentation was included in the production acceptance turnover process. I was responsible for the implementation of Help Desks, Network Control Centers, Operation Control Centers, Incident Command Centers and Emergency Operations Centers. I also designed and implemented an Inventory Management System, Asset Management System, and Configuration Management System to track product life cycles from Acquisition, through Redeployment, and finally to Product Termination in accordance to Standards.

Responded to audits and risk assessments identifying disaster recovery/business continuity planning gaps and exceptions; upgraded and created recovery plans, testing procedures, quality assurance

guidelines, production acceptance requirements, and production acceptance standards and procedures to mitigate gaps and exceptions while optimizing operations.

Created data center recovery and business continuity plans for **banks** (Manufacturers Hanover Trust, Chemical, EAB, Chase, Citibank, Security Pacific), **brokerage firms** (New York Stock Exchange, Securities Industry Automation Corporation, AIG Audit Department, Shearson, Salomon Smith Barney, RMJ Securities, Lehman Brothers), **pharmaceutical companies** (Sandoz), **vendors** (IBM, Computer Science Corporation, Storage Technology Corporation), **and others** (United Nations, ADP).