John Cosgrove, P.E., CFC Cosgrove Computer Systems Inc. Software Engineering

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Expert Witness in Computer Systems & Software

Client List & Summary of Recent Cases

3/25/2015

25 D = Deposed, 19 T = Testimony at trial/arbitration hearing - last 4 years 5 D, 2 T

Keller Thoma (Michigan) -- School district client contracted for a major upgrade to its IT infrastructure but did not receive the promised set of new and upgraded capabilities for the budgeted amount specified by the supplier. Supplier maintains that the disputed portion of the upgrade was to be negotiated as a post-award consulting services SOW. Analysis of the various artifacts which defined the promised implementation included a 30+ minute video presentation by the supplier's CEO containing extensive description of the promised capability.

12/14 – Present Larry E. Powe, Esq (313) 965-8928

Von Esch Law Group, ALC (Orange, CA) – Plaintiff client was a specialty manufacturer of cushioning materials for the furnishings industry. This industry is characterized by very narrow margins with aggressive competition and frequent raw material cost changes. A specially configured version of an Enterprise Resource Planning (ERP) system was offered by an experienced Value Added Reseller (VAR) of a leading supplier of such systems. The VAR studied the client's needs and promised to supply a system which would enable the client to closely monitor the costing to ensure profitable operations in the client's highly competitive manufacturing. The system provided failed to meet the needs of the client both in reliability and costing support. Analysis by an accounting expert established that the installed system failed to provide the promised cost reporting as well as adequate training for client staff. Client claims that flawed costing data caused major reductions in profit margins after installation of the new system.

6/14 – Present Robert A. von Esch, Esq. (313) 965-8928

LeClair Ryan (Los Angeles, CA) – Defendant client provides web hosting services for a major e-commerce auto sales site. A major component of this hosting service uses photographic images of various models, model years and perspective views of autos amounting to tens of thousands of images which are being constantly updated under a licensing and maintenance agreement. Defendant did not renew the previous

agreement with the plaintiff supplier and migrated to an alternate supplier of images under a new agreement. Plaintiff supplier claimed that defendant was violating the copyright for all of the images because it was possible to access the plaintiff's images by direct means other than the normal e-commerce user interface. Plaintiff claimed substantial statutory damages for a past time period by submitting archival web software content. Detailed analysis of the website content in both current and archival versions established significant doubt as to the validity of the claims on the submitted content. Case was satisfactorily settled after submission of expert opinions, which challenged the assertions made by plaintiff.

2/14 - 4/14

James Potepan. Esq. 213.337.3244 Brian Vanderhoof, Esq 213.337.3247

Sedgwick, LLP (Irvine, CA)— Defendant is a supplier (using subcontractor providers) of software services for maintenance and support of classified ground control systems for military satellites. In this type of contract, the contracted supplier responds to a series of specific task requests supported by budgeted sources of funds. The plaintiff — who was a former supplier of these services — claims that defendants who included former employees of the plaintiff misappropriated trade secret software. Critical to the response to the claims are the design characteristics of the actual installed software, which was analyzed to determine these design facts. Case was settled after deposition.

10/13 - 2/14, **D**

Jenni Kratzer, Esq. 949.567.7815 Curtis Parvin, Esq. 949.852.8200

Law Offices of Greg Olson (San Diego, CA) -- Plaintiff is a leading supplier of sophisticated night vision and aiming systems to military and other government customers. These systems include complex trade secrets, which are critical to the competitive advantage of the plaintiff's products. The plaintiff contracted with two consultant firms to provide specialized expertise to support the development of new custom products incorporating the plaintiff's trade secrets. The consulting firms agreed in writing to treat all aspects of the custom products as trade secrets belonging to the plaintiff. After a successful first project, plaintiff discovered that the trade secrets were being misappropriated and used in competitive proposals in violation of the signed agreements.

10/13 – 2/14 Greg Olson, Esq. 619.564.3650

Williams, Kastner (Tacoma, WA) – A series of radiation treatments prescribed for a cancerous tumor located under the chin was incorrectly aimed, causing the radiation of the spinal cord instead. The ultimate effect of this improper treatment led the patient to commit suicide. Analysis of the medical records and technical documents associated with the computer systems involved in the radiation identified inconsistent software data structures which controlled positioning of the beam during the treatment. The case was settled before trial.

9/12 - 12/13

John Rosendahl, Esq. 253.552.4084 Deanna White, Esq. 253.552.4093

Ropers, Majeski, Kohn & Bentley (Boston, MA & San Jose, CA) – A major supplier of semiconductor components and industry-specific subsystems lost a key executive from a recent acquisition that was a leader in a rapidly expanding portion of the energy technology field. This executive joined a direct competitor in this field despite the existence of a comprehensive non-compete-agreement (NCA) to the contrary. The dispute centers on the validity of the NCA and the resulting business damages resulting from improper use of IP.

6/12 – 10/12 Lita Verrier, Esq. (617) 973-5720 Michael J. Ioannou, Esq. (408) 287-6262

Messana - Law, PA (Fort Lauderdale, FL) – An industry-leading provider of Enterprise Resource Planning (ERP) systems delivered a customized ERP system which was supposedly ready for business operations supporting a nation-wide distributor of semiconductor components. The delivered system was so flawed that the company went bankrupt within months as noted in the court's ruling ".. a disastrous computer system installation ultimately caused the financial collapse of XXX Inc. and thirty-three affiliated companies and necessitated their Chapter 11 bankruptcy filing." Bankruptcy trustee client is seeking damages on behalf of stockholders. The project records are being analyzed to determine the causes and history of the factors leading to the "disastrous computer system".

3/12 - present Tom Messana, Esq. – 954.712.7415

DeCastro Law (San Diego, CA) – A video game publisher contracted with a game developer to update an early version of a working game for a fixed price with defined requirements and milestones for interim deliverable versions leading to a commercially-ready, completed game. Analysis of project records and limited operational examination of the partially-completed, executable game established that the game was not commercially-ready in a number of critical elements. These included adherence to industry-wide standards of practice such as conformance to currently supported-version development systems and official interface practices. Additionally, quality development processes conforming to contractually-required, good-practice standards were seldom or inconsistently used.

12/11 – 6/12 **D, T** Audie DeCastro, Esq. – 619.702.8690 Jeff Commisso, Esq. – 415.787.0990

Moore Brewer Wolfe Jones Tyler & North (San Diego, CA) – A credit union in a mediumsized city experienced inconsistent performance and unusually frequent erroneous operations in its financial support software provided by an industry-leader financial software provider over a period of several years. Analysis of system records revealed that the supplier had been installing prototype versions of a new software product in the core operations of the client's operations without their knowledge or approval. This was comparable to field testing a new software product aimed at the credit union industry while putting the financial integrity of the client's business at risk. Informal reports of these findings were provided to the client's legal team in order to enable them to achieve compensation of the credit union client without compromising the installed systems which finally achieved dependable performance and formed the basis of a successful product line for the supplier.

3/12 - present Katherine Bray, Esq. -- 858.626.2883 Duane Tyler, Esq. -- 858.626.2883

Bremer Whyte Brown & O'Meara, LLP – A payroll system was adapted for a nation-wide franchise of fast-food restaurants but was not accepted for use by the franchisor client because of incomplete and unreliable operations. Analysis of project records supported an opinion that the system was incomplete and had major faults which could result in significant risk to franchisor's business operations. Case was settled.

10/11 – 1/12 Alison K. Hurley, Esq. - 949.221.1000

Hamburg, Karic Edwards & Martin, LLP – A provider of fulfillment services for specialty-branded cellphones for a supplier to large retailers was in a dispute over billings for IT Services. Analysis of the project records over a two-year period showed that the email history confirmed that the line-item billing described week-in, week-out performance of software development and maintenance support was consistent with project records and typical of the Services agreed-to in the Services Agreement. A separate assessment of the services and costs billed showed that the total effort and costs were reasonable and in the typical range for systems of this size & type as compared to actual systems developed and supported by the analyst. Case settled shortly after submission of our formal opinion.

7/11 – 9/11 Ryan Koczara, Esq. 310.552.9292

Murphey Austin Adams Schoenfeld LLP – A multi-dealer auto mall contracted with two long established suppliers of automation for the auto dealer industry to replace their existing systems provided by another supplier. Both the existing supplier and the new suppliers operated in conformance with established industry standards. The new suppliers represented in the media and sales documents that they conformed to the standards and were fully integrated with each other. Also, they were represented by the same sales agent. After installing the new suppliers' software, significant errors plagued the operations for months and the financial impact became unacceptable. The installed systems were abruptly disabled because full payments for the services were being held back pending correction of the failures.

11/10 – 8/11 D. Michael Schoenfeld, Esq. 916.503.4000

Dominguez Law Group – A local health care services provider contracted with an established systems development firm to analyze operations and define automation methods leading to design and development of a Patient Care Management system for their business operations center. After nearly two years and hundreds of thousands of

dollars, nothing usable was produced. The supplier terminated the project lead and provided a replacement lead new to the project. After unsuccessfully attempting to proceed with the new project lead, a review by an outside software firm confirmed that none of the interim artifacts for the new system were usable and the plaintiff firm had to start over.

11/10 – present Aimee Dominguez, Esq. 213.487.8510

Reiss Johnson Law Offices – Departed employees were accused by former employer that they had improperly utilized employer's software and trade secret designs in a new business. Analysis showed that the alleged designs were largely part of non-proprietary designs used by standard conforming suppliers as mandated by school district customers who required inter-operability. Also, testimony showed that plaintiff admitted to representing the products at issue as being non-proprietary and thus ineligible for trade secret protection for the underlying software.

10/10 - 8/11 James Reiss, Esq. 909.483.0515

Miller Barondess LLP – A multi-national fashion clothing manufacturer contracted with a well-established value added reseller (VAR) of an international enterprise resource planning (ERP) system to replace existing individual IT systems in their various subsidiaries, some of which were international. The plaintiff had previously installed a successful custom system based on the same ERP in its European subsidiary in a contract with a different VAR. This earlier VAR had been subsequently acquired by the defendant VAR. The defendant proposed a low cost system based upon its supposed familiarity and experience with the previously installed system. Immediately after starting on the new system, the supplier notified the customer that they had discovered major problems with the proposed low cost design and insisted that the budget had to be increased by at least a factor of two in order to complete the system.

9/10 - 3/11 Jim Miller, Esq. 310.552.5278

Trenam Kemker – In a new case related to an earlier action in 2006 (see Dreier LLP), analyzed software artifacts and project records to establish whether a complex video editing system was derived from plaintiff client's products or vs. vs. Testimony was given in deposition and before a jury in trial.

7/10 – 9/10 **D, T** John Goldsmith, Esg. 813.223.7474

Dennett Winspear – Analyzed emails and IT financial records to determine accuracy of claimed extra IT costs caused by allegedly libelous communications by client staff. Initial analysis found that contents of emails were partially corrupted and produced financial records failed to support plaintiff's claims.

6/10 – 9/10 Matthew Sarnoski, Esq. 702.839.1100

Robinson & Wood – Analyzed contractual records and opposing expert's report of a contract for the development of specialized network communication processor boards. Prepared opinion which established limited obligations for conditional delivery for the

first portion of the multi-part contract while also responding to opinions in plaintiff's expert report. Case settled after submission of expert report.

6/10 - 9/10

Keith Kaufmann, Esq. 702.363.5100

Lee, Hernandez, Brooks, Garafalo & Blake – Analyzed history of a verbal contract involving obsolete packaged software products to determine reasonable obligations in preservation of market valuation of product materials by recycler client. Prepared opinion stating that records of business transactions established that plaintiff's intent was to scrap the packages of software, not maintain its market value as usable software. Case was settled just before trial.

4/10 - 6/12

Summer J. Petersen, Esq. 702.880.9750

Law Offices of Edward Mizrahi – Analyzed telecom cellular tower and billing records to determine defendant's location in connection with a criminal prosecution. Prepared demonstrative documents which formed the basis of the opinion and testified before a jury in support of the opinion.

2/10 - 6/10 **T**

Edward Mizrahi, Esq. 213.617.2229

Locke Lord Bissell & Liddell LLP – Reviewed dispute records as part of a patent enforcement suit involving a means to dynamically adapt content of user interface data screens and menus on various devices from desktop terminals to hand-held portable computers.

7/09 - 2/10

John Osborne, Esq. 212.415.8509

Gibson Robb & Lindh LLP – Analyzed project records and software code directories from a project dating back to 2000. Software was developed by an off-shore (India) supplier and did not meet functional requirements and specified quality standards. A key issue in the dispute is providing an objective estimate of the expected costs of a replacement system which would be developed by US-based developers as specified in the development agreement as a remedy. This estimate was provided by using a well established software cost model – the Constructive Cost Model (COCOMO) which is maintained by USC under contract to the federal government. The remainder of the opinion documented the development history of the project which established failure of the supplier organization to meet the functional and quality obligations as required by the contract. Testimony was given at deposition and before a jury in court. Case was successfully appealed and is being re-tried.

9/09 - present **D**, **T**

Joshua Kirsch, Esg. 415.979.2323

Duane Morris LLP – Analyzed project records from a failed software system which supported insurance policy rating and issuance for insurance underwriter client. System was intended to replace several legacy processing systems with an integrated system implemented with modern web-based technology. US-based supplier employed off-shore software developers and failed to adequately manage the off-shore

developers and maintain system quality. Dispute was settled after deposition testimony.

6/09 – 10/09 **D** Suzanne Fogerty, Esq. 415.957.3207 Eric Sinrod, Esq. 415.371.2219

Tripp Scott Attorneys (Ft. Lauderdale) and Law Office of Daniel Sleasman (Albany NY) – Analyzed project records and software source code from a failed joint venture between NC-based Credit Union Member Marketing Services client and Life Insurance company defendant. Issues included improper incorporation of client's automated business methods into re-engineered version of defendant's sales support systems which resulted in life insurance firm's significant growth in credit-union-based revenues. Jury awarded an eight-figure judgment to plaintiff.

10/07 – 3/12 **D**Alexander Brown, Esq. 954.760.4909
Daniel Sleasman, Esq. 518.433.0518

McCormick Barstow LLP – Analyzed extensive project records from a multi-supplier Enterprise Resource Planning (ERP) software systems project. Software-supplier client is accused of substantial non-performance of contractual obligations even though the system is essentially in full operation. Key facts at issue are the relative shares of responsibility allocated to 3rd party suppliers who had independent contractual relationships directly with the customer of the ERP system.

10/07 – 4/08 Anne Padgett, Esg. 702.949.1109

Robie & Matthai – Analyzed extensive forensic images obtained from a departing employee of a health-professionals recruitment firm to determine if improper use of the firm's database occurred. The analysis was in support of a lawyer client being sued for malpractice by the recruitment firm.

3/07 – 7/08 **D** Edith Matthai, Esq. 213.706.8000

Eagan O'Malley & Avenatti, LLP & Call, Jensen & Ferrell – Analyzed forensic copy of a word processor file documenting an engagement agreement for lawyer client as part of a lawyer-client dispute. Analysis confirmed that creation and last-modification dates were consistent with dates represented by client. Prepared analysis documents and testified before arbitrator.

8/07 – 9/07 **T/Arb**James Hardin, Esq. (CJF) 949.717.3000
Michael Avenatti, Esq. (EOA) 949.706-7000

Call, Jensen & Ferrell – Analyzed court documents and inspection records of a dispute between a company providing leasing on an installation of computer servers which were the basis for financing the lease, and a company specializing in inspections of such equipment to detect possible fraud. The installation turned out to be fraudulent and the principals were convicted, but the client firm was seeking redress for losses

from the inspection services firm. Analysis showed that the inspection did not meet reasonable standards of care in verifying whether the installation was as reported.

2/07 - 3/07Ward Lott, Esq. 949.717.3000

Tribler Orpett & Meyer, P.C. – Analyzed extensive project records over a three year period for a computer system which provided various administrative and regulatory records management services for a workers compensation insurance carrier doing business nationwide. Software supplier asserted that insurance carrier client breached contract when system was replaced with a competitive system because supplier failed to meet promised performance standards in required functionality and system reliability. Analysis of records showed that supplier failed to meet standards-of-care in delivered functionality and maintenance of system.

1/07 - 6/07 **T/Arb** Douglas Crone, Esq. 312.201.6431 Mitchell Orpett, Esq. 312.201.6413

Malloy & Malloy - Prepared technical rebuttal declaration to findings of patent examiner who ruled to overturn selected claims in a previously awarded patent on a Point-of-Sale system which is being challenged. Case is a follow-on to an earlier action (CollenIP -3/06) which litigated the IP issues.

1/07 - 2/07John Fulton, Esq. 305.858.8000

Pratter & Young - Captured and analyzed contents of computers providing web services for client firm offering auto transportation services in a dispute with a competing firm. Opposing side claims that proprietary software providing web services was improperly used by client firm. Key issues include the means of locating and identifying the software at issue and whether the proprietary software was present on the client's computers. Helped define the e-discovery protocol used to respond to discovery orders from the court.

12/06 - 5/07Michael Pratter, Esq. 310.391.3311 Robert Young, Esq. 310.313.6421

Ropers, Majeski, Kohn & Bentley (Lexington, MA) – Provide analysis investigating the apparent copying of proprietary documents involving integrated circuit technology by a departed employee. Analysis involves verifying the detailed circumstances of the improper access and the technical significance of the compromised documents.

12/06 - 2008

Lita Verrier, Esq. 781.775-8892

Jones Day - Reviewed discovery and operational data from large-scale railroad operations in support of a disputed air quality management district regulatory ruling. The new ruling was alleged to be unduly burdensome and might compromise safety of operations. Analysis showed that the reporting required by the new regulations was

largely available from existing data. A demonstrative example showed that the reporting could be readily accomplished at minimal cost and impact, and could possibly result in substantial fuel savings. Opinion was defended by deposition and testimony at Federal court.

10/06 – 12/06 **D,T** Chris Lovrien, Esq. 213.243.2316

Kaplan, Kenegos & Kadin – Analyzed cell phone tower usage and other telecom system documents to determine the location of the accused cell phone user at a critical time and date. Opinion was presented as testimony in a murder trial.

8/06 - 8/06 **T** Jerry Kaplan, Esq. 310.859.7700

Maxie Rheinheimer Stephens & Vrevich (San Diego, CA) LLP – Analyzed specifications and project history of a failed project to provide a customized version of a special-purpose donor management system to non-profit client. A disputed issue, critical to project completion, was determining responsibility for the unsuccessful conversion of client's data base into format needed by new system.

7/06 – 11/06 Timothy Treadwell, Esq. (619) 515-1155

Foley & Mansfield PLLP (Minneapolis, Mn) & Goldstein Law Group (Washington DC) – Analyzed project records and electronic discovery in dispute between a group of individual franchise owners and the franchisor of a large network of fast-food stores. Issues involved the attempt by franchisor to impose the company's newly-developed, integrated point-of-sales (POS) computer system against the wishes of the individual owner/operators. Technical issues included the reliability & features of the new POS system and the business risk & cost impacts on individual owners. Also assisted with hearings and 30 (b) (6) depositions involving responsiveness of produced data from electronic discovery demands.

Tom Pahl, Esq. 612-338-8788 Jeff Goldstein, Esq. 202 - 359-0441 6/06 -- 2008

Dreier LLP (NYC, NY) – Analyzed technical documents, project records and source code for a computer-controlled video film editing system which was adapted for analysis of athletic performance by coaching staff. Issues involved percentage of relative and residual ownership of athletic version of system's IP between opposing parties as stated in disputed contract documents.

3/06 – 8/06 **D**David Lagasse, Esq. 212.328.6167

Luce, Forward, Hamilton & Scripps (San Diego, CA) – Analyzed derivative content of large software systems used in banker client's operations. Dispute involved issues of ownership of software developed and/or enhanced by subcontractor who was the opposing party. Analysis revealed that the disputed software was largely derivative of

earlier systems used by the bank which predated subcontractor's involvement. Also found clear evidence of improper submission by subcontractor to the US Copyright Office of client's software. Testimony was given in deposition and in two days of courtroom testimony before a jury. Another day of court testimony was given on separate causes of action before the judge.

10/05 – 5/06 **D & T** Pam Wagner, Esq. 619.236.1414

O'Neil Cannon Hollman DeJong (Milwaukee, WI) – Analyzed extensive project records and software artifacts on a large-scale medical records automation system for clinicians in hospital facilities. The project was prematurely terminated by plaintiff for alleged failures in performance. Software supplier client claimed substantial performance and lack of required cooperation on the part of the terminating party. The analysis resulted in an extensive opinion resulting in deposition testimony in two separate sessions.

9/05 – 8/06 **D** Greg Lyons, Esq. 414.276.5000

Collen IP (Ossining, NY) – Prepared a rebuttal to an expert opinion claiming invalidity of a Point-of-Sale (POS) system patent owned by client as part of an infringement suit. Rebuttal opinion showed that the patents which were claimed to be prior art, did not invalidate client's patent. Deposition testimony on the opinion followed by a filed declaration of facts was provided.

9/05 – 3/06 **D** Matt Wagner, Esq. 914.941.5668

Clark & Trevithick -- Provide analysis supporting the improper use of intellectual property involving computer-aided product designs allegedly used in competing business formed by departed employees. Also provide assistance in obtaining and investigating electronic discovery from defendant computers. Associates of this firm provided testimony at trial.

9/05 - 1/06

Dolores Cordell, Esq. 415.456.5762, Steve Hyam, Esq. (213) 629-5700

Ropers, Majeski, Kohn & Bentley (Lexington, MA) – Provide analysis supporting the improper use of intellectual property involving integrated circuit technology allegedly used in competing business formed by departed employees. Also provided assistance in obtaining and investigating electronic discovery from defendant computers.

9/05 - 1/06

Lita Verrier, Esq. 781.775-8892

Squire, Sanders & Dempsey, LLP – Assisted developer of a widely-used, special-purpose, business software application with a litigation to enforce compliance with the license provisions in their user community. Assisted legal team in collecting evidence of improper use of client system in order to meet evidentiary standards. Also reviewed technology issues in documents supporting litigation.

3/05 – 9/05 David Abel, Esq. 213.689.6565

Law Office of Guerin Butterworth – Analyzed development history and source code to establish current value of a software product at issue in a divorce case. Product generates significant royalties from original version which were shared as part of mid-90s settlement. Issues are the residual value of the original software in order to determine whether any future royalties must be shared on the redesigned product.

9/04 - 8/07

Guerin Butterworth, Esq. (562) 901-9171

Law Office of Paul Ultimo -- Analyzed business history of a breached contract to market a complex software product in the US which was developed by a foreign firm. Issues required re-creation of product sales in the absence of financial data from the foreign firm and forming an opinion of the likely future sales volume for the product. These projected sales figures became the basis of a last-minute settlement for the client after two depositions.

12/04 - 3/05 **D**

Paul Ultimo, Esq. (949) 851-0300

Duane Morris, LLP (San Francisco, CA) – Analyzed extensive development history and source code for a banking software system acquired under exclusive license for client firm. Client was seeking to sell an integrated software system containing some residual content of the originally licensed programs. Issues were to determine how much residual content of the original software existed after several years of development by client. Client was awarded a favorable ruling after deposition and testimony before arbitrator established that the residual content was effectively nil.

 $11/04 - 3/05 \, D.T/Arb$

Eric Sinrod, Esq. 415.371.2219

SAFECO/Law Offices of Maureen O'Hara – Analyzed operation of a prescription management system for pharmacies. Improper prescription was issued by an insured for a customer which was a possible cause of a fatality. Analysis determined that a poor design in the operation of the software was a likely cause of the improper prescription remaining in the system. Insurance company client negotiated an acceptable settlement after this determination. In an unrelated earlier case for the same insurance company, made forensic copy of computer and analyzed contents. Case was settled quickly.

9/04 - 1/05

Maureen O'Hara, Esq. (562) 420-4001

Jackson-Walker LLP – Researched industry issues on case involving breach of a joint venture agreement between a large firm and mid size firm who was the client. The large firm was attempting to establish a presence in the wireless communications business area of the client. Research found relevant publications which played a significant part in the large firm offering a favorable settlement with the client. Client attorney noted

that my research "contributed to the very successful result" in the confidential settlement.

7/04 - 9/04 Bob Garrey, Esq. (214) 953-5974

SoCal IP Law Group – Assisted in defending a patent claim on a software patent which was being re-examined by the PTO. Provided a detailed response to issues raised by the examiner in defense of the claim.

9/04 - 10/04

Steven Sereboff, Esq. 805.230.1350

Law Offices of Phil Israels – Analyzed phone records and related documents for an accused maker of threatening phone calls. Provided alternate explanation for records showing phone calls' origination and recommended means to establish additional corroborating evidence establishing likelihood of innocence. Assisted attorney as coordinating technology consultant at defense table during trial.

2/04 - 11/04

Phil Israels, Esq. 310.451.9888

Law Offices of Sue Brown – Reviewed investigator's reports and testimony and then compared findings with actual contents of a computer disk drive involved in a criminal trial. Opinion determined that conclusion reached by investigators was incorrect and unsupported by actual contents of the disk drive presented as evidence. Case still pending under appeal.

10/03 – 6/04 **T** Sue Brown, Esq. 323.651.5951

SJF Law – Analyzed computer system logs and related forensic data to show that departed employees had unauthorized access to company communications for competitive purposes. Case was settled before trial.

8/03 - 4/04

Patrick Toole, Esq., (559) 233-4800

Law Offices of Lee & Oh; Buchalter Nemer – Analyzed technical communications and project description of a disputed software project involving a new cryptographic methodology. Dispute involved the adequacy of software development and testing methodologies used as a condition of capital investment. Case is an international arbitration between offshore investor client and US-based startup.

8/03 – 4/07 **D, T(AAA-Arb)**Daniel Lee, Esq. 213.487.2371
Geoff Bogeaus, Esq. 213.891.5122
Debra Deem, Esq. 949.760.1121

Law Offices of James Noriega – Analyzed descriptions of software utilities to establish valuation to determine loss to a departing employee by employer's destruction of

programs developed at employee's own expense. After deposition and submission of opinion, case was satisfactorily settled.

5/03 – 7/03 **D** James Noriega, Esq. (661) 322-7900 Joel Andreesen, Esq.

Esaunu Katsky Korins & Siger, LLP – Analyzed extensive project records in a failed outsourcing contract to perform medical claims processing for client HMO. Project records show that experience and skills claimed by supplier during marketing phase were not sufficient to avoid unacceptable claims backlogs and excessive payment error rates.

3/03 – 6/03 Tom Lopez, Esq. 212.716.3257 Alan Bloom, Esq. 310.649.7161

Joseph Stark, Law Offices – Compared source code used by departed employee in offering a competing service to previous employer's clients. Analysis showed that, although extensive cosmetic changes were introduced, competing code was clearly copied from original employer's version. This opinion was based on several signature characteristics which could not have been present in independently developed versions. This was true despite the fact that departing employee was the original developer while employed.

4/03 – 6/03 Joseph Stark, Esq. 661.799.1880

Fulbright & Jaworski LLP, Los Angeles

#1 – Created forensic copies of 10's of computers to retrieve proprietary and trade secret information claimed to be taken by departing employees from an electronics firm to setup a competing business. Computer contents and software & hardware designs are being analyzed for evidence of improper derivation/use of IP. T/Arb

#2 – Analyzed software systems and project records for a failed web-based, media automation system used for real estate advertising. Opinion established that client was justified in canceling project due to poor quality and supplier's inability to staff the development with appropriate skills to produce a system which meets labor saving objectives. D

#3 – Acquired forensic copy of defendant's computer to obtain evidence of improper use of intellectual property by departed employee. System involved complex software which distributed computing tasks over a large number of computers. Opinion on improper use of IP involved research to determine unique designs separate from some publicly available systems. T/Arb

9/02 – 1/04 **D, T/Arb** Jay Venkatesan, Esq. 213-892-9223 John O'Malley, Esg. 213.892.9227 Knapp, Petersen & Clarke – Analyzed project records and software for a failed system development contract which was cancelled by client. Analysis showed that supplier billed for work not performed and that amount of billing was not justified for work that was performed. Client negotiated advantageous settlement just before trial for a small fraction of claimed amount.

10/02 – 4/03 Steven Harris, Esq. 818.547.5149

Richard Steingard, Law Offices – Analyzed the market value of allegedly contraband software to establish sentencing for a smuggling conviction. Estimate was based on establishing that the smuggled software was incomplete and was obsolete at the time of the incident. Several opinions and rebuttals were prepared and one court appearance was necessary.

1/02 – 5/03 **T** Richard Steingard, Esg. 213.622.3101

Cline & Associates Division of The Hartford Insurance – Analyzed history of incident, examined pleadings, records and depositions relating to an industrial accident on a computer-controlled dredge. Insured was a control systems/software developer contracted by dredge operator who is a co-defendant in suit to compensate for injuries suffered by worker.

4/02 – 4/03 Howard Brody Esq. (818) 265-5229

Jackson, Lewis, Schnitzler & Krupman – Retrieved communications and transaction records from computers used by a terminated employee suspected of improper financial activities who is suing for wrongful termination. Evidentiary copies were made of the computers involved and records of the suspect transactions were reconstructed from files over two years old.

4/02 – 3/03 Brian Porter, Esq., 213.689.0404 Mia Farber, Esq., 213.689.0404

Beach, Proctor, McCarthy & Slaughter – Analyzed project records and actual software at issue in a dispute claiming derivative reuse of subject software. Satisfactory settlement was reached after preliminary opinion which established that plaintiff's claims of derivation were not supported and effective value of plaintiff's software was negligible in any case.

3/02 – 4/02 Jeffrey Leader, Esq. (805) 658-7800

Feyyaz & Cem, Istanbul – Organized a team of computer specialists to defend a medium size Turkish bank against a breach-of-contract suit involving an unsuccessful banking

software system provided by an American supplier. Researched history of supplier, analyzed extensive project documents and advised Turkish legal team on successful strategy in an ICC Arbitration hearing in Atlanta, Georgia before a Swedish judge. Testimony and opinion clearly established that critical elements of the banking software were never delivered and other services provided failed to meet contractual commitments and standard-of-care, contradicting the assertions that the supplier had fully performed and were due the amounts billed.

1/24/02 – 3/1/02 **T/Arb** Cem Cetiner, +90 (-212) –2927318 Ms. Bennar Aydogdu, Esq. +90 (212) 361 1123

Cotton & Gundzik LLP – Prepared analytical documents which organized extensive project records from several contractors involved in a failed nation-wide network project involving ATM terminals in retail outlets. Analysis showed that the project was canceled because the plaintiff did not perform to an implied standard-of-care and did not meet critical, time-sensitive commitments. The case settled after the first day of hearings.

9/01 – 11/01 Aaron Gundzik, Esq. 213.312.1330

Roxborough, Pomerance & Nye LLP – Analyze failed network file server with corrupted business data for a client who experienced major loss and business interruption. Insurer disputed the nature of the failure leading to the business loss and rejected most of the claim amount. Computer contents were significantly compromised since the occurrence of the failure and much of the reconstruction of the failure requires analysis of extensive records and deposition transcripts. Case settled just prior to trial after opposing expert's opinion was largely refuted.

8/01 – 12/18/01 Drew Pomerance, Esq., 310.470.1869

Robert Gentino, Esq. – Analyze health care provider's data base for records of employee claims payments that were allegedly processed improperly resulting in significant overpayments by employer client.

7/01 – 8/01 Robert Gentino, Esq., 818.509.7272

Jackson, Lewis, Schnitzler & Krupman – Establish evidentiary baseline for contents of two computers containing documents related to a discrimination and harassment lawsuit. Conducted a search for evidence of any documents or related activity on the computer which was relevant to the allegations. Evidence of improper activity was retrieved and a report prepared which formed a basis for the plaintiff's examination.

8/01 – 8/02 Mia Farber, Esq., 213.689.0404

Jackson, Lewis, Schnitzler & Krupman – Establish evidentiary baseline for contents of several computers containing documents related to a wrongful termination lawsuit.

Conduct search for evidence of these documents and any attributes which could determine dates and possible authorship.

6/01 – 2/02 Mia Farber, Esq., 213.689.0404

Jackson, Lewis, Schnitzler & Krupman – Establish evidentiary baseline for contents of several computers containing sensitive pharmaceutical records. Assist in assuring the complete removal of sensitive data before returning computers to opposing party.

5/01 - 8/01

Mia Farber, Esq., 213.689.0404

Jonathan Weiss, Esq. – Pursuant to a court order, prepared evidentiary copies of contents of all the computers in an office involved in a lawsuit. Contents were examined based upon established criteria and results were submitted to the court for disposition.

3/01 - 5/01

Jonathan Weiss, Esq., 310.558.0404

Cristensen, Miller, Fink, Jacobs, Glaser, Weil, & Shapiro, LLP – Analyze content of desktop computers used by three departing employees in an investment banking firm to determine whether valuable client data was taken. Analysis also required review of file server backup tapes and various pleadings and discovery documents to determine accuracy of sworn declarations from departed employees.

3/01 – 8/01 Sean Riley, Esq. 310.282.6265 Steven Weinberg, Esq. 310.556.7887

Steven Rios, Esq. – Analyze contents of a computer seized by law enforcement officers to determine the circumstances surrounding receipt over the internet of allegedly illegal computer files. Case required preparation of a pleading and testimony at an evidentiary hearing which obtained expert access for the defendant client to the seized computer contents. After obtaining access to the computer, examination showed that client had access to illegal material for a very limited amount of time before losing possession of the computer. Client obtained a satisfactory plea to a lesser charge based upon the comprehensive record showing that the client's pattern of use over his entire ownership period did not support the original charge of habitual behavior.

11/00 – 6/01 **T** Steven Rios, Esq., 949.493.1166

Brandon & Hilton Attorneys – As part of a wrongful death lawsuit, analyzed personal & business records and computer storage media to establish current business value and earning potential of a computer entrepreneur who was killed in a dispute with local sheriffs. With the assistance of colleagues, produced an analysis of the past professional income stream and expected future earnings for a computer professional with the deceased's skills and experience.

10/00 - 10/01

Briedenbach, Buckley, Huchting, Halm & Hamblet – Analyzed project/financial records and transcripts to determine the realistic business value of the software in an eight figure insurance claim for intellectual property allegedly lost when a group of employees left the plaintiff's employ. Case was settled favorably after deposition testimony established that the claimed business value was negligible, based on the plaintiff's own records, supporting testimony and records of market opportunity windows for this type of product.

7/00 –9/00 **D** Joni A Lee, Esq., 213.624.3431

Heller Ehrman Attorneys – Analyzed project records and deposition transcripts for defendant client who is a major vendor of enterprise management software. Dispute centered on the difficulty of installing and implementing client's software on plaintiff's nationwide distributed computer system. Provided simplified analysis of technology issues in laymen's terms which provided basis for deposition. Suit was settled just prior to trial on terms satisfactory to client.

5/00 – 6/00 **D** Robert Hubbell, Esq., 213.689.7563 Deborah Rosenthal, Esq., 213.689.7509

Stapke & Harris, LLP – Examine computer data and related business records to determine adequacy of warranty payments for defendant client who is a major nationwide manufacturer of flooring products. Case involved the method of using the records in a data base which recorded the amount and circumstances of warranty payments which were the critical issues in certification of the case as a class. After analysis of the data and interviews with client operations staff, a formal opinion found that that the conclusions used by the plaintiff to justify the class action were unsupportable.

5/00 – 12/00 Mark Stapke, Esq., 310.441.4500

Jackson, Lewis, Schnitzler & Krupman – Recover and analyze erased data on a computer used by a terminated employee who is suing for wrongful termination. Data was recovered which supported the stated reasons for the termination. Suit was favorably settled for client.

2/00 – 5/00 Frank M. Liberatore, Esq., 310.203.0200

Lawrence & Associates & Robert Gentino, Esq. – Recover, analyze and testify about proprietary computer data erased from a laptop computer used by departing executive to establish a competing business while still employed. Case was decided by the court in favor of the client with a substantial judgement.

12/99 – 2/2000 **T** Amy B. Lawrence, Esq. 310.277.7184 Higgs, Fletcher & Mack – Analyze discovery material, transcripts and computer systems in support of litigation of a failed joint venture involving computer systems installed at hundreds of remote locations. Defendant/cross-complainant client is a major nationwide chain of franchised operators. Primary issues are the reliability of the computer systems and the contractual responsibilities of the respective parties for technical performance of the systems. Analysis determined the underlying causes for the poor reliability and demonstrated means to correct the problems, which provided important factual material to litigate the dispute. Also material was a detailed analysis of the project records which identified representations by the supplier which were inconsistent with the actual state of the computer system at issue. Suit was settled favorably prior to trial.

10/99 – 6/01 Patricia Hollenbeck, Esq. 619.236.1551 Phillip Samouris, Esq. 619.236.1551

Fox, Johns, Lazar, Pekin, Treadgold & Wexler -- Analyze discovery material and transcripts in support of litigation involving a breached computer systems development contract. System was intended to provide extensive processing for institutional securities trading company. Suit was favorably settled for client.

11/99 – 5/00 George Lazar, Esq., 619.237.0011

Troy & Gould – Prepare evidentiary copies of several computer disks for detailed examination of data to support analysis of expert opinions submitted in a trade secrets dispute. Analyzed contents of disk drives, gave deposition and prepared questions for opposing expert in preparation for trial. Testimony of opposing expert was disallowed by the court as a result of analysis of computer evidence, his conclusions and the evidence handling methods used by the opposing expert. Technical issues have been resolved in favor of the client but a remaining, non-technology issue has not been fully adjudicated.

8/99 – 6/01 **D** Russell Glazer, Esq. 310.789-1216 Jeff Kramer, Esq. 310.789.1221 Bill Gould, Esq. 310.553.4441

Garrett Zelen, Esq. – Prepared evidentiary copy of computer disk for detailed examination of data and analysis of means used to produce documents at issue in defense of criminal prosecution. Testified concerning the results of investigation and analysis of opposing expert's opinion.

8/99 – 10/99 **T** Garrett Zelen, Esq. 310.820.0077

Kramer & Kaslow – Analyze documents and computer software to form an opinion about misuse of proprietary software in intellectual property dispute. Gave deposition

and supported deposition of opposing expert. Case was settled with a favorable result to client.

7/99 – 10/99 **D** Sean Newman, Esq., 310.553.3838

Richard Rosett, Esq. – Analyze documents and computer software submitted as computer science class assignments in an academic dishonesty hearing at a campus of the University of California. Appeared at hearing, arranged for additional supporting experts and coordinated preparation of formal opinions. Academic sanctions imposed were dismissed by university administration.

9/99 - 10/99 **T/Arb**

Richard Rosett, Esq. 310.453.6711

Margarita Trimor, Esq. – Analyzed documents and researched software specifications in order to form an opinion concerning a wrongful termination dispute concerning a Computer-Aided-Drawing technician.

6/99 - 8/99

Margarita Trimor, Esq., 818.539.2228

Baker & McKenzie – Verify complete removal of proprietary documents from firm's computers at two locations in support of a dispute involving improper use of these documents.

6/99 – 7/99 Cynthia Iliff, Esq., 619.235-7759

John Cleary, Esq. – Analyze the significance of the contents of a computer disk entered into evidence for appeal of a federal criminal fraud case. Opinion determined that some material modification of the data and the computer operating conditions had occurred and conclusions reached may have been compromised.

5/99 - 7/99

John Cleary, Esq., 619.232.2222

Baker & McKenzie – Analyze technology issues, coordinate technology experts and testify in arbitration. Dispute involves breach of an international development/purchase agreement for an educational software device. Plaintiff settled with favorable terms for client.

12/98 - 4/99

Charles Evendorff, Esq., 619.235-7741, 7785

Beck, DeCorso, Daly, Barrera & Kreindler – Retrieve Computer Data Supporting Lawsuit 10/98 - 5/99

Theresa Barrera, Esq., 213.688.1198

Suit for Recovery of Software System to Manage Legal Records Supporting Lawsuits – Successfully defended theory of implied contract with opposing law firm for individual client.

10/98 – 11/98 **D** Charles Sutton, Esq., 818.780.6248

Murchison & Cumming – Analyze Records of Development History Leading To Breach Of Contract on Large-Scale Control, Data Acquisition System for Region-Wide Water Distribution District. – Determined underlying factors causing failure of contract, which resulted in a satisfactory settlement for software developer client.

8/98 - 10/98 **D**

Mary Ann Alsnauer, Esq., 213.630.1028

Whitman & Breed, Abbott & Morgan – Analyze Discovery Data in Suit for Damages Relating to An Industrial Printing Control System. – Identified erroneous records which induced client to terminate suit and save further expense.

7/98 - 9/98

Mark Shipow, Esq., 213.896.2413

Hollins, Schechter & Feinstein – Analyze Discovery Data in Defense of a Software Agreement to Distribute Auto-Repair Information Systems

2/98 - 5/98

Eric Schiffer, Esq., 714.558.9119

Kramer & Kaslow – Breach of Contract for Software Development, analyzed records and prepared questions for depositions leading up to an advantageous settlement for client who was a third party damaged by the breach.

3/97 - 8/97 **D**

Phillip Kramer Esq., 310.553.3838

Kevin Mahoney (client), President, CFMC Inc., 310.376.9059

Teaching & Professional Publications/Presentations

Publications/Lectures

Presented Forensic Engineering Practice Effects from Computer-Resident Evidence at the July 2008
Conference of the National Academy of Forensic Engineers (NAFE), Portland OR. Panel discussion member on "Computer Disasters – Getting the Facts Before the Court" in June 2005 SW IT Law
Conference. Also testified in mock trial on the same subject following the panel discussion. Presented "Avoiding the Destiny of Failure in Large Software Systems" at a 2005 conference sponsored by the International Council on Systems Engineering (INCOSE). Authored invited articles on Is It Time to License Software Engineers?, NSPE PE Magazine –12/07, Forensic Engineers and the New Federal Rules Regarding Electronically Stored Information (ESI) for the Journal of the National Academy of Forensic Engineers (NAFE) 6/07, Software Engineering & Law for IEEE Computer Society "Software Magazine" (5/2001) and gave talks on the subject at meetings sponsored by UCLA, USC, CSULB and other professional meetings. Supplied full chapter on Software Engineering & Litigation for 2002 edition of the

"Software Engineering Encyclopedia", John Wiley & Sons. Presented talk on Computer-Resident Evidence Discovery at the San Diego Bar Association "Inn of Court" 2001 meeting on computer issues in litigation. He authored "Needed: A New Planning Framework", Datamation 17, 23 (Dec 1971) which was quoted by Brooks, Frederick P., "the mythical man-month – Essays on Software Engineering", Addison-Wesley (1982 and 1995), pp. 117-118.

Short Courses in Software Engineering

University of Southern California (USC) Advanced Technology Programs broadcast over the National Technology University (NTU) satellite network. Four courses were offered -- "Introduction to Software Architecture", "Introduction to Safety Critical Software Development" and "Competitive SW Engineering" – over the NTU network from 12/94 through 4/97 to dozens of receiving sites nationwide, two were repeated on request.

Presented several short courses "Ada Project Management" for George Washington University (GWU), and "Software Process Management", "SW Engineering Overview for Developers", and "Requirements Management" for the Software Engineering Forum at San Diego State University. Presented tutorial and paper on critical-systems software development methods at WESCON '96 and again in 1997.

Volunteer lecturer in engineering, giving Software Engineering & Litigation lecture in Engineering Ethics course each quarter for Dean Russell O'Neill (now deceased) and Prof. Don Browne, UCLA School of Engineering and Applied Science (SEAS)

4/98 – 4/05 Professor Don Browne, SEAS (310) 825-9610

Graduate Course in Software Engineering – Computer Science Department, Loyola Marymount University

Los Angeles, Ca 1968-9(Loyola U.), 2/98 – 5/98 Dr. John Page, Chair Electrical Engineering/Computer Science (310)338-7358

Graduate Course in Software Engineering – Computer Science Department, UCLA School of Engineering and Applied Science (SEAS)

4/95 – 5/96 Dr. Alfonso Cardenas, Professor of Computer Science (310)825-7550

Consulting Engineer in Software Development

MB Schoen & Associates, Inc. – Prepared a software asset evaluation estimate for company which provides pension plan audit reconciliation services for enterprises with large pension plans. The asset evaluation employed both the technical Constructive Cost (COCOMO) and financially-based models in determination of an estimated business value.

3/07 – present

Compex Litigation Services Inc., Torrance CA --- Analyze computer operations and provide recommendations for business strategy in evolving legal services market. Performed technical due-diligence in evaluating potential acquisition.

6/03 - 9/05

Boeing Co, Anaheim, CA (HTS subcontract) – Responsible for development of Verification and Validation (V&V) strategy for the Interceptor software portion of the Ballistic Missile Interceptor Program

6/02 - 12/03

Charles Schwab & Co., Phoenix, Az – As part of a specialist team, developed a disaster recovery/business continuity plan with cold-site system configuration for stock market data processing centers.

1999

TRICOR Industries – Project Review of ITV Distributed Information Management System for Worldwide Aircraft Operations

Ofallon, Il 10-11/95

Sharon Holdener, Site Administrator, 618.632.9804

Lear Astronics (now BEA Systems) – Review of In-Flight Fuel Management System Project for CFO

Santa Monica, Ca 2-3/95 David Dallob – President, 310.915.6000 Chris Reid – VP & CFO, 310.915.6722 Jerry Gill – Engineering Director, 310.915.6809

Software System Development

Boeing/Anaheim, CA – 6/2002-12/2003 Missile Defense software – System V&V

Litton Industries/Northridge, CA - 1998--1999

Lockheed-Martin/Goodyear AZ -- 1998

Interstate Electronics/Anaheim, CA -1997-98

Monitoring Systems Inc./New Jersey - 1997

Usersystems Inc./Gambrills MD - 1996-97

Textron/Wilmington, MA - 1993-95

Booze-Allen/VA - 92-93

Librascope/Glendale,CA - 1990-91

Northrop/Hawthorne, CA - 1989-90

Rockwell/Lakewood, CA - 1988-89

SAIC/Torrance,CA - 1987-88

International Teldata -1976 - 1983

Xerox Data Systems - Employee 1968-70 Hughes Aircraft - Consultant 1970-89, Employee 1958-1967

Miscellaneous Information

Self-employed since 2/70

BSEE 1961, Loyola University Los Angeles (now Loyola Marymount U) Master of Engineering, 1967, UCLA

Co-Inventor on three patents (issued in 1980's) automating utility meter reading using telephone systems. Was lead designer on multiple systems which automated the real-time collection of utility metering data for system management and customer billing.

Licenses & certifications

Professional Electrical Engineer, State of California

Certified Forensic Consultant (CFC), American College of Forensic Examiners (ACFEI)

Certificate in Data Processing (CDP/CCP), Institute for Certification of Computer Professionals (ICCP)

Life Senior Member of Institute of Electrical & Electronic Engineers (IEEE) Computer Society Member National Society of Professional Engineers (NSPE)

Fellow – National Academy of Forensic Engineers (affiliate of NSPE)

Member of Institute of Management Consultants (IMC)

Member Association for Computing Machinery (ACM)

Member American College of Forensic Examiners (ACFEI) – Diplomate of the Board of Forensic Engineering & Technology

Forensic Expert Witness Association (FEWA), Member BoD -- Los Angeles Chapter

President -- <u>UCLA Engineering Alumni Association</u>, Past VP and Chair – Alumni-Student Networking Committee,

Founding and current member of Southern California Software Process Improvement Network (SC SPIN)

Personal

Four-time USA Masters National Champion in 3K Steeplechase (S/C), placed 2nd in M60 2K S/C -- Nike World Masters Games, 1998

As USATF national committee member, introduced new competition opportunities for Masters Track and Field athletes at the local and national level

Introduced an elite-level athletics training program in Mammoth Lakes in the Sierra Nevada which currently provides a leading venue for US Track & Field Olympians.

Served on two non-profit Boards of Directors for decades.