Stephen Gray

Expertise

- Distributed Computing Architecture
- Internet/Web/e-Commerce
- Web Services Protocols/SOA
- Client/Server Technology
- Electronic Presentation Technology
- Programming Languages

- Image and Document Processing
- Relational Database Design
- Network Architecture
- Software Quality
- Software and Systems Development, Integration and Management

Professional Summary

Mr. Gray has over 30 years of experience in the computer and communications industries. His background includes systems and software architecture, design and development as well as senior management positions in development, marketing, and general management.

Employment History

From:	1984	Gray & Yorg, LLC
To:	Present	San Diego, CA

Present San Diego Position: *Principal*

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Mr. Gray is an expert in modern computing platform architecture, design, implementation and integration, including relational database design in networking environments. In providing consulting services, he has successfully completed the following projects:

- Performed patent portfolio analysis for large corporations
- Developed policies and procedures for a "clean" software development environment. Monitored activities to ensure conformance.
- CSO for a Business Process Management software start up. The firm develops Web Services/SOA based BPM creation, orchestration, management and optimization solutions.
- CTO for an e-Commerce Internet start up. The firm developed a product that specializes in procurement for public agencies.
- Interim CEO for a broadband Competitive Local Exchange Carrier (CLEC). Helped negotiate the successful sale of the CLEC.
- CTO for an Internet-based secure content distribution startup. The firm developed comprehensive Digital Rights Management (DRM) solutions for the control and promotion of content on the Internet.

- Architected several e-Commerce applications for legacy interoperability
- Participated in the architecture definition and design of a highly scalable, high performance device controller for multifunction document processing products
- Performed a detailed analysis of the competitive environment for retail point-of-sale hardware and software systems. Analysis included technology, marketing, compensation and back office interface issues
- Provided system design, product selection and project management for a turnkey software/hardware system for residential refuse hauling and toxic waste disposal company. System involved multiple hardware and software vendors around the IBM AS400 central processing system
- Led the design of a high performance, LAN-based image capture and statement printing subsystem using IBM system components using DBII relational database and SQL language for TRW
- Led the design of an image assisted, remittance processing system using IBM system components and Sybase relational database in a client/server architecture for TRW. Additionally, designed an object-oriented front end to the database so that the UNIX platform could execute Sybase applications
- Engaged to perform a technology audit for the United States Department of Agriculture using ORACLE database products, which resulted in a major overhaul of the database management implementation for their application
- Collaborated with FileNet to develop an IBM-to-UNIX interconnection strategy for their optical disk-based document imaging and filing system
- Defined high speed interconnection and relational database methods using SQL language for Marriott Corporation to handle large transaction volumes in a hotel reservations system
- Collaborated with Xerox in mid 1990s development of an electronic printing system front end supporting a wide range of advanced printing services, including resolution enhancement technology
- Advised Northern Telecom on the performance of IBM's Net View product
- Authored two technical seminars: SNA Technology Update, OS/2 and SAA, Introduction to Client/Server Technology with special emphasis on relational database management. Published articles in trade journals such as Interface Age, CASE World and Info World

From: To:	2001 2002 Position:	Networld Exchange Incorporated Bonsall, CA <i>Chief Technical Officer</i> Networld Exchange, Inc. (NEI) provides Fortune 2000 companies private trading exchange (PTX) solutions that automate their B2B commerce activities. NEI is a restart. NEI is funded by institutional investors in New York and Florida. Mr. Gray was recruited in 4Q01 by the investors as part of the new management team.
From: To:	2000 2001 Position:	NTN Communications Carlsbad, CA <i>Chief Technical Officer</i> NTN Communications, Inc. (AMEX: NTN) is the parent corporation of two operating divisions: Buzztime Entertainment, Inc. and the NTN Network®. Mr. Gray serves as CTO for the parent corporation and each of its operating divisions. Buzztime Entertainment, Inc. develops and distributes sports and trivia games to a variety of interactive platforms including interactive television, the Internet, PDS and mobile phones. The NTN Network, NTN's hospitality business, operates two interactive television (ITV) networks that broadcast games to millions of consumers each month at 3500 restaurants, sports bars and taverns in North America. Mr. Gray is responsible for all of the technical aspects of the corporations as well as forward looking programs and business opportunities.
From: To:	1987 1988 Position:	 Simpact Associates Director, Product Marketing Directed the full life cycle of definition, delivery, marketing and enhancement of four sets of IBM connectivity products, including: SNA protocol support hardware and software for DEC VAX systems An IBM PC-based gateway product that supports SNA and other industry-standard communications architectures A Netware-based Token Ring Network adapter board and software for DEC VAX systems A hardware/software product that receives financial market feeds and reformats the information for presentation to programs running a VAX via a proprietary applications programming interface (API)

From: 1982 Xerox Corporation

1987

To:

Position: General Manager, Host Software Products

- 1985-87 As the founder and leader of the product delivery organization of a Xerox independent business unit, Mr. Gray managed 21 employees and 33 contract professionals. He directed the definition, architecture, design, development, test, product transfer and sustaining engineering of six products for electronic page printers connected to IBM mainframes, DEC VAX and IBM PC's.
- 1982-85 Manager, Foreign System Interconnect. Managed four professionals who defined and developed the technical interconnect strategy for electric page printers to wide-and local-area networks. Mr. Gray's group delivered host software, network and printer engineering services. He invented a new printer interconnection technique, developed interfaces to Ethernet local area network, and designed connections to IBM mainframes using SNA and the System/370 channel.

From: 1979 Computer Communications, Inc.

To: 1982

Position: *Manager, Communication Controller Software Development* As leader of the architecture, design, development, and testing of an SNA communications controller, Mr. Gray managed 24 professionals. His group successfully designed, developed and deployed the controller's operating software, diagnostics, host-based compilers, and system support software. Before that, he was the product manager for front-end processors and remote concentrators. Also, he engineered an X.25 multi-channel controller.

From: 1977 Olivetti Corporation

To: 1979

Position: Regional Support Manager

Started as a district manager and later became a regional software support manager for a series of mini- and microcomputer business systems. Applications included general business and on-line frontoffice banking.

- From: 1973 **Burroughs Corporation**
- To: 1977

Position: Systems Programmer, Systems Analyst Specializing in data communications software and held several design and product implementation positions in the mid range and small system development groups.

Additional Professional Experience:

- Designed and implemented numerous relational database management systems using Sybase, Informix, Microsoft Access, DB2.
- Knowledgeable in C, C++, SQL, COBOL, RPG, Basic, Java, various Assembler languages, HTML, XML.
- Designed IBM SNA Distribution Services compatible electronic mail interface product. The product interfaced to MCI mail services.
- Designed peer-to-peer printing network product for MCI
- Designed image-processing system for TRW on contract with the Internal Revenue Service. Participated in the implementation of a prototype of the system.
- Designed image based item processing system for TRW and IBM Participated in the implementation of a prototype of the system.
- Defined IBM interoperability strategy for FileNet products.
- Defined distributed network printing product for Xerox.
- Defined and managed several networking products for Simpact Associates. Used the System Strategies Inc. Express SNA package.
- Defined, designed and implemented several interoperability interfaces to Xerox Electronic Printers.
- Defined, designed and implemented telecommunications control devices for Computer Communication Incorporated.
- Developed and presented numerous public and in-house courses in IBM, Unix, Internet and related networking technologies.
- Member of UCSD Connect "Most Innovative Product Award" Selection Committee (2002, 2003, 2004).

Member of Association of Computing Machinery and Institute of Electronic and Electrical Engineers

Litigation Support Experience

(Note: Those entries marked with * indicate testimony by trial, hearing or deposition in the last 5 years. The retaining party is underlined.)

Date:	2014	Bracewell & Giuliani LLP Droplets, Inc. v. <u>Overstock.com</u> , Inc., Sears et al Patent Infringement – distributed processing Active
Date:	2011*	Neal, Gerber & Eisenberg LLP <u>Transunion</u> v. Experian <i>CBMR</i> Active
Date:	2014	Mayer Brown, LLP M Seven v. <u>Leap Wireless (Cricket)</u>

		Copyright – mobile phone software Active
Date:	2014*	Jackson Walker Personal Audio v. Lotzi Digital, Inc. Patent Infringement – distributed processing Active
Date:	2014*	Fish and Richardson, et al Diet Goal Innovations v. Chipotle, et al Patent Infringement – distributed processing Inactive
Date:	2014*	Mayer Brown, LLP B.E. Technology v. <u>Google</u> <i>Inter Partes Review</i> Active
Date:	2014	Greenberg Traurig, LLP PersonalWeb Technologies, LLC; et al v. <u>Microsoft Corporation</u> Patent Infringement – distributed processing Inactive
Date:	2013	Finnegan, Henderson, Farabow, Garrett & Dunner, LLP Datatreasury Corp v. <u>Fidelity National Information Service</u> Patent Infringement – distributed processing <i>CBMR</i> Active
Date:	2013	Finnegan, Henderson, Farabow, Garrett & Dunner, LLP CheckFree Corp., et al. v. <u>Metavante Corp. et al</u> . Patent Infringement – distributed processing Active
Date:	2013*	Perkins Coie LLP Enfish, LLC v. <u>Microsoft Corp., et al</u> . Patent Infringement – data management Active
Date:	2013	Klarquist Sparkman, LLP Optimize Technology Solutions, LLC v. <u>Staples, Inc., et al</u> . Patent Infringement – targeted advertising Inactive

Date:	2013*	Shibolleth, LLP <u>TJAT</u> v. Amdocs Copyright and Trade Secret Infringement – mobile telephony Inactive
Date:	2013	Mayer Brown, LLP B.E. Technology v <u>Google</u> Patent Infringement – targeted advertising Active
Date:	2013	Ostrow Kaufman Geotag, Inc. v. <u>Burberry Ltd.</u> Patent Infringement – search engine technology Inactive
Date:	2013	Locke Lord LLP Geotag, Inc. v. <u>Rolex Watch USA</u> Patent Infringement – search engine technology Inactive
Date:	2013	Fish & Richardson Ingeniador v. <u>Adobe Systems Inc.</u> Patent Infringement – data management Inactive
Date:	2013*	Ostrow Kaufman <u>ComScore</u> v. Moat Patent infringement – website monitoring Inactive
Date:	2013	Silicon Edge Law Group <u>Alacritech</u> v. Hewlett-Packard Patent interference – network performance Inactive
Date:	2013	Park, Vaughan, Fleming & Dowler Wisconsin Technology Venture Group v. <u>FatWallet</u> Patent infringement – distributed processing Inactive
Date:	2013*	Jones Day Hartford v. <u>Progressive</u> Patent infringement – distributed processing Inactive

Date:	2013	Norton Rose Fulbright BNP v. <u>United Health et al</u> Patent infringement – distributed processing Inactive
Date:	2012	Merchant & Gould Phoenix Licensing v. <u>First Premier et al</u> Patent infringement – distributed processing Inctive
Date:	2012	Haltom Doan eLynxx v. <u>InnerWorkings</u> Patent infringement – distributed processing Inctive
Date:	2012	Jackson Walker Global Sessions v <u>Travelocity et al</u> Patent infringement – distributed processing Inactive
Date:	2012*	Cooper & Dunham DDR Holdings v. <u>Hotels.com, et al (National Leisure Group)</u> Patent infringement – travel web site Inactive
Date:	2012	Fish & Richardson Summit 6 v. <u>RIM</u> Patent infringement – media handling Inactive
Date:	2012*	Quinn Emanuel Apple v. <u>Samsung</u> Patent infringement – user interface operations Active
Date:	2012*	Morrison & Foerster Augme v. <u>Yahoo</u> ! Patent infringement – distributed processing Inactive
Date:	2012	Wilson Sonsini Goodrich & Rosati Home Bondholders v. <u>Salesforce.com</u> Patent infringement – distributed processing Inactive

Date:	2011*	Jackson Walker <u>Transunion</u> v. Experian Patent infringement – distributed processing Active
Date:	2011	Vinson & Elkins <u>Ariba</u> v. Rearden Contract Dispute Inactive
Date:	2011*	Quinn Emanuel <u>Catalina Marketing</u> v. Coupons Inc. Contract Dispute Inactive
Date:	2011	Alston & Bird <u>Openwave</u> v. Apple, et al Patent infringement – distributed processing Inactive
Date:	2011*	DLA Piper <u>Motorola</u> v. Tivo Patent infringement – audio/video processing Inactive
Date:	2010*	Law Office of Christian E. Mammen, Lieff Cabraser Heimann and Bernstein, LLP and Tousley Brain Stephens, LLP <u>Deep9</u> v. Barnes & Noble Patent infringement – distributed processing Inactive
Date:	2010*	McDermott Will & Emery, Alston & Bird Bedrock v. <u>Soft Layer, et al (Yahoo!, AOL, MySpace)</u> Patent infringement – distributed processing Inactive
Date:	2010	Quinn Emanuel <u>Soverain</u> v. J.C. Penney, et al Patent infringement – distributed processing Inactive
Date:	2009*	Jones Day Oracle v. <u>SAP</u> Copyright infringement – enterprise software

Inactive

Date:	2009*	Foley & Lardner DataTreasury v. <u>US Bank</u> Patent infringement – distributed processing Inactive
Date:	2009*	Gibson, Dunn & Crutcher IPI v. <u>Red Hat, Novell</u> Patent infringement – distributed file systems Inactive
Date:	2009*	Jackson and Walker ICR v. <u>Harpo</u> Patent infringement – e-Commerce Inactive
Date:	2009	Cooley Godward Leader v. <u>Facebook</u> Patent infringement – distributed file systems Inactive
Date:	2009*	Jones Day SuperSpeed v. <u>IBM</u> Patent infringement – distributed file systems Inactive
Date:	2008	Baker & Botts Fotomedia v. <u>Yahoo!</u> Patent infringement – file sharing Inactive
Date:	2008*	PaulHastings Datascape v. <u>Kyocera, et al</u> Patent infringement – Internet protocols on cell phones Active
Date:	2008	Hogan & Hartson <u>ODS</u> v. Magna Entertainment Patent infringement – E-Commerce Inactive

Date:	2008*	Winston & Strawn <u>CNET</u> v. Etilize Patent infringement – E-Commerce Inactive
Date:	2008*	Weil, Gotshal & Manges i4i v. <u>Microsoft</u> Patent infringement – Data formatting, representation Inactive
Date:	2008*	Jones Day <u>MathWorks</u> v. COMSOL Patent infringement - interoperability, Copyright Inactive
Date:	2008	Townsend, Townsend & Crew Anthurium v. <u>Spheris</u> Patent infringement – Distributed Processing Inactive
Date:	2008	Jones Day <u>Soverain</u> v. CDW, et al Patent infringement – e-commerce Inactive
Date:	2008	Paul Hastings Sify v. <u>Yahoo</u> ! Trade secrets Inactive
Date:	2007	Finnegan Henderson Cisco v. <u>Telcordia</u> Patent infringement – system monitoring Inactive
Date:	2007	Brown Raysman WebSide Story v. <u>NetRatings</u> Patent infringement – web monitoring Inactive
Date:	2007	Paul Hastings <u>MediaTek</u> v. Sanyo Patent infringement – data compression Inactive

Date:	2007	Sutherland <u>FedEx</u> v. U.S. Tax Credit Inctive
Date:	2006	Jones Day <u>IBM</u> v. Amazon Patent infringement – Electronic commerce Inactive
Date:	2006	Brown Raysman <u>NetRatings</u> v. SageMetrics Patent infringement – web monitoring Inactive
Date:	2006	Young Conaway Stargatt & Taylor Sungard v. <u>PHI</u> Breach of contract Inactive
Date:	2006	Paul Hastings <u>Autobytel</u> v. Dealix Patent Infringement – Electronic commerce Inactive
Date:	2005	Brown Raysman <u>NetRatings</u> v. Coremetrics, et al Patent Infringement – Electronic commerce Inactive
Date:	2005	Kim & Wilcox HealthFirst v. <u>HealthTrio</u> Contract Dispute – Electronic information portals Inactive
Date:	2005	Ropes & Gray (Fish & Neave) <u>Ampex</u> v. Kodak, et al Patent Infringement – Image transformation Inactive
Date:	2005	Sedgwick Detert Moran & Arnold LLP <u>Waltrip Associates</u> v. Kevin Kimperlin & Spencer Trask Ventures Contract Dispute - Theft of trade secret, EDI and ecommerce Inactive

Date:	2005	Orrick, Herrington & Sutcliffe LLP <u>Metilinx</u> v. Hewlett-Packard Contract Dispute - Large scale software deployment, QA, system management Inactive
Date:	2005	Morrison & Foerster <u>BEA</u> v. SoftwareAG Patent Infringement - Web Services, Software development tools, OOP Inactive
Date:	2005	Jones Day Orion v. <u>American Honda</u> Patent Infringement – Electronic Catalogs and Brochures Inactive
Date:	2004	Keker & Van Nest AB Cellular v. <u>City of Los Angeles</u> Contract Dispute – Tax Authority, Source Code Analysis Inactive
Date:	2004	Silicon Edge Law Group Oracle v. <u>Mangosoft</u> Patent Infringement – Web System Personalization Inactive
Date:	2003	Smith Katzenstein & Furlow LLP S. Rakoff et al v. <u>Dot Com Group, A. Nash et al</u> Contract Dispute – Web Analytics Inactive
Date:	2003	Jones Day Hill v. <u>IBM</u> Patent Infringement – Electronic Catalog, data management Inactive
Date:	2003	Fish & Richardson Mirror Imaging LLC v. <u>Affiliated Computer Services</u> Patent Infringement – Electronic Document Storage Inactive
Date:	2003	Jones Day VPS LLC v. <u>Eastman Kodak Co. and Ofoto</u>

		Patent Infringement – Digital Media distribution Inactive
Date:	2002	Steptoe and Johnson Steven Heard & Dean Messier v. <u>California Institute of Technology</u> <u>& Jet Propulsion Laboratory</u> Patent Infringement - Digital Images Upload/Storage Inactive
Date:	2002	Fish & Neave LLP <u>Harrah's Casino</u> v. Station's Casino Patent Infringement – Player loyalty system in a network Inactive
Date:	2002	Preston Gates and Ellis LLP <u>Eyefinity, Inc</u> . vs. Entigo, Inc. Contract Dispute - Faulty software development Inactive
Date:	1998	Robman & Seeley Ametron-American Electronic Supply v. <u>Entin, et al</u> Theft of Trade Secrets - Recovery of Data and Evaluation Inactive
Date:	1998	Kronish Lieb Weiner & Hellman GTE v. <u>Videotron</u> Contract Dispute - Analysis of UNIX-based system Inactive
Date:	1998	Kudo & Daniels <u>Total Recovery Services</u> v. Microage Contract Dispute - Faulty Product, evaluation of product. Inactive
Date:	1996	Baker & Botts <u>BMC Software</u> v. Peregrine Systems, Inc. Theft of Trade Secrets - DB2 enhancement software. Inactive
Date:	1995	Pacific Bell Inside Counsel David McGoveran v. <u>Pacific Telesis Group and Pacific Bell</u> Damages trial in Theft of Trade Secret Litigation - assess market potential and value of SQL software. Inactive

Date:	1994	Cooley Godward Castro Huddleson & Tatum ADV Freeman v. <u>Boole & Babbage</u> Contract Dispute - Assessment of software quality, expert witness on product marketing and software quality. Inactive
Date:	1984	O'Melveny & Myers <u>IBM</u> v. NCR Comten Copyright Infringement - Code comparison and product analysis and design of alternative technologies. Inactive

Education

Year	College/University	Degree
1973	California Polytechnic University	BS, Economics

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