

## Joseph J. Martinka

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Summary of Qualifications	<p><b>Design:</b> Experienced at architecting and developing multi-tiered distributed systems: manageable, measureable, scalable and performant.</p> <p><b>Languages:</b> Java, JavaScript, C#, ASPX, JSP, Servlets, Perl, VB, ASP, C/C++, ksh, awk, Python, TCL/TK, Prolog, Lisp</p> <p><b>Dev Envs:</b> Visual Studio, Eclipse, Business Intelligence Design Studio, XML/Spy and other Altova products, Together, JBuilder, Visual Cafe,</p> <p><b>O/S and Distribution:</b> Windows, Android, Weblogic, Linux, Corba, DCE, Tuxedo, sockets, HTTP</p> <p><b>Interfaces:</b> HTML, XML, XSLT, OAuth2, OpenID Connect, WinRT, DOM, some J2EE and RESTful, EJB, DHTML, ActiveX, CGI-BIN</p> <p><b>Database Big Data:</b> MS SQL-Server, SSRS, SSAS, OLAP Cubes, MySQL, Tableau, Hadoop, Map-Reduce, JDBC, T-SQL, MDX-SQL</p> <p><b>Modeling and Mining:</b> UML, Cluster Analysis, Predictive Analytics, Performance (discrete, analytical) Bayesian Nets, Petri Nets</p> <p><b>Certifications:</b> Project Management Professional (PMP), Certified Scrum Product Owner (Scrum Alliance), Predictive Analytics and Data Mining Proficiency (The Modeling Agency), Microsoft Certified Solution Developer (MCSD/MCAD)</p>
Employment	<p>2014-present <i>HP Inc - Applications and Systems Group</i> Palo Alto, CA</p> <p><b>Master Solution Architect</b></p> <p>Expand and transform crucial software services for identity management, session control, e-commerce workflow and data file storage systems for HP's Personal computer and printing customers. These services are crucial components of worldwide purchase and subscriptions of cloud services, products, and consumables. Current efforts accelerate more comprehensive sign-on strategies and applicability for various applications provided to customers. Technologies: OAuth, OpenId Connect, SAML, mySQL, Java, SeqDiagram</p> <p>2011-2014 <i>HP - Printers and Personal Systems</i> Sunnyvale, CA</p> <p><b>Master Solution Architect</b></p> <p>Transformed an anemic, untrusted brand and partner reporting system into a operationally stable worldwide business critical reporting system. As champion and advocate, assembled cross-organizational resources including contractor funding. Refactored and designed the Extract-Transform-Load (ETL) processes from 9 sources to a comprehensive reporting dashboard, extending the data into OLAP data cubes for deeper analysis. Introduced Agile development techniques with rapid releases direct into production. Played key roles in new HP services and apps related to the Windows 8 launch. Responsible for primary design and development of robust telemetry libraries for Windows and Android Apps, subsequently supervising a port to iOS. Libraries tracking 30 million Apps since 2012. Earlier, designed and led development of generic software application tracking services shipped on HP Win7 computer products. Included data acquisition, reduction and reporting from millions of PCs. Patent granted. Technologies: Microsoft SQL, SSRS, SSAS (OLAP DataCube), TSQL, MDX,</p>

Java, Android, AWK, XML, RSS, C#, Altova MissionKit (XML/Spy, MapForce), HTML, R, Rapid DataMiner, Javascript, CSS, PowerScript, SVN, Hadoop MapReduce.

2007-2010 *HP - Personal Systems Group - Consumer Experience*

Cupertino, CA

**Master Solution Architect**

Led the design and implementation of a world-wide dynamic RSS-based content distribution system achieving a layered deployment within 12 months of up to 18 million requests / day with minimum resources. This effort required program management of multi-vendor R&D and HP IT teams. Primary architect on the HP Advisor Experience Center coordinating both external and internal development in 2008. Led technical due diligence during major portal partner RFP negotiations and successful HP acquisitions. Coordinated various new portal module development. . Leader of the PSG-CE Architects Roundtable. Patent filed. Technologies: XML, RSS, C#, C++, Altova MissionKit (XML/Spy, StyleVision), XSLT, WPF, HTML, JSON, Javascript, CSS, MS-SQL, PowerScript, SVN, DevPartner. Promoted to Master level.

2002-2006 *HP - HP Services e-Services Delivery*

Mountain View, CA

**Business System Analyst VI**

Lead developer on HP's primary worldwide support web site for business customers - more than 2 million page hits a day. Primary go-to designer for handling 350 MB of software download meta-information from HP's Software Repository (SOAR) representing over 40% usage of the site. Designed and led implementation of content processing and distribution back ends for vastly more stable operation using Java and SQL. Program manager and direct leadership of up to 7 engineers for a full web site re-skinning on schedule and without major issues; later a Service Oriented Architecture (SOA) refactoring. Led a cross-team effort in to double site throughput while halving response times with better stability. Primary author for an extensive Request for Proposal to major portal vendors. Completed requirements, analysis, design and prototype parts of the PMLC. Technologies: Java, JSP, Struts, JavaScript, HTML, MS SQL 7.0/2000, TSQL, Weblogic 5.1/8.1, Microsoft .NET, FrontPage, WSRP, Omniture, Foundry

1999-2001 *HP- BCO eBusiness Technology*

Mountain View, CA

**Engineer Scientist**

Technical architect for marketplace strategies for HP in the IT services area. Evaluated technologies and integration challenges. Part of the technical team for in-depth evaluation of marketplace and collaborative commerce vendors for an E-Mart transformational vision. Led the E-mart private marketplace technical evaluation using a marketplace prototype in collaboration with external ASP partners. Earlier, technical lead in implementing a new infrastructure for HP's web support center called ITRC. Assessed, prototyped and recommended the adoption of Vignette StoryServer. Also, championed and implemented a compositional decision support knowledge representation and reasoning system based on previous innovations at HP Labs. The reasoning engine is an object-oriented design that addressed the needs of automated on-site diagnostic self-support as well as HP electronic support and phone-based response centers. Includes back-end authoring tools and knowledge administrator tools completed the full knowledge life-cycle process. Technologies: Web Services, WSDL, Java, ASP, MS Access, SQL 7.0, ActiveX Data Objects, Perl 5.0, DBI, Visual Basic, 3rd party Graph Layout toolkits. Two patents granted.

1994-1998 *HP Research Labs*

Palo Alto, CA

**Member of Technical Staff**

Advocated advanced research towards innovations in performance management of complex distributed application systems. Led two teams on several prototypes demonstrating performance diagnostics of end-to-end performance measurement and management, the latest was a multi-tiered client/server application where clients were Java applets and the software components ran on various NT and UNIX systems. Created an information model approach to Quality of Service management that leveraged a model-based reasoning (MBR) engine technology to approach the goal of automating management. Presented the vision in various forums, both within the company and with HP partner organizations. This approach was extended into a network printer system diagnostic prototype installed at the HP Labs IT organization, an environment of 400 printers and many dedicated printer spoolers. Led a 12-member team to create a novel approach using MBR, Java web servers/browsers, and specialized agent technologies. As acting project manager for twelve months, duties included staffing, performance evaluations, budgeting, presentations, and cultivating cross-organizational relationships. During the last year, led new research in Knowledge Engineering for linking manual diagnostic support systems based on Case-Based Reasoning and Decision Graphs to automated diagnostic systems which may include multi-modal reasoning systems such as Model-based Reasoning, and Bayesian Probability Networks. Prototyped new Win32 based servers delivering diagnostic decision support driven from a relational database using a novel control structure. The objective was to franchise larger communities of knowledge authors for structured knowledge authoring, leveraging HP's strengths to competitive advantage in support. These systems are expected to enable customer self-support when applied to the management and diagnosis of desktop and server computer systems. Technologies: Java, C++, object Prolog, Windows API's, Perl, Tcl/Tk, databases.

1991-1994 *HP-Networked Systems Architecture Lab*

Cupertino, CA

**Engineer Scientist**

Responsible for the performance analysis of prototypes and test-beds using OSF-based distributed computing environment (DCE), transaction monitors, and distributed file system. Technical lead on three six-month projects to a) characterize and improve DCE naming services, b) evaluate HP Labs VLIW architecture (aka Intel's Itanium) compared to PA-RISC architecture, and c) client-server performance modeling techniques and technology. Development of strategies, tools, and models to characterize the architecture and implementation of cooperative, heterogeneous computing in HP and other vendor environments.

1983-1991 *HP-Various Divisions*

Cupertino, CA

**Development Engineer**

Member of Hardware Systems Performance section. Completed in-depth analysis of CPU design issues (e.g. TLB, pipelines, cache) in Precision Architecture (PA-RISC) processors using simulation. Also concentrated on the performance impact of disk and terminal I/O on various HP PA-RISC systems. Designed hardware and software data collection/reduction techniques to assist in the tuning and design of I/O subsystems on the HP-PB 32-bit bus. Interpreted and reported subsystem results in terms of effects on overall system performance. Modeled multi-processor memory bus architectures using discrete simulation. Familiar with HP logic analyzers, discrete and analytic performance models, and hardware tracing techniques. Previously designed, built and operated synthetic workload generators simulating multi-class

customer workloads using analytic performance models (SAS). Earlier supported X.25 worldwide instrument support systems.

1981-1983 *Pacific Telephone*

San Francisco, CA

**Operations Support Manager**

Responsible for operations, training, software/hardware testing, and technical support of a new computer operations facility during initial construction and conversion. Supervised two managers and four union workers.

1977-1981 *United States Navy*

Nuclear Submarine, Pacific

**Naval Officer - Nuclear Trained**

Awarded: Navy Achievement Medal, Naval Submarine "Dolphins". As Weapons Officer, supervised 32 technicians and one officer. Responsible for the operation, maintenance and repair of the fire control, sonar and weapon delivery systems. Qualified Officer of the Deck. As Main Propulsion Officer, supervised 16 technicians. Planned and implemented preventative and corrective maintenance for nuclear propulsion systems, including chemistry and radiation controls. Responsible for quality assurance procedures, personnel training and performance goals. In 1976 at U.S. Naval Research Labs, Washington, D.C., designed, constructed and programmed a microprocessor controller for laboratory Auger spectroscopy equipment.

Education

2005 *The George Washington University*

Washington, D.C.

**Associate Certificate in Project Management (PM)**

GPA: Focus: Technical systems management

1990 *Stanford University*

Stanford, California

**Master of Science, Computer Science (MSCS)**

GPA: 3.8 Focus: Computer Systems, Performance Analysis

1985 *University of Santa Clara*

Santa Clara, California

**Master of Business Administration (MBA)**

GPA: 3.9 Focus: Operational Analysis, Organizational Dynamics

1976 *United States Naval Academy*

Annapolis, Maryland

**Bachelor of Science, Electrical Engineering (BSEE)**

GPA: 3.4 Graduated with Honors (Superintendent's List)

Patents and Publications

***Apparatus for a Multi-Modal Ontology Engine***, US Patent 6,728,692 awarded April 28, 2004. Lead inventor with three others.

An apparatus for a multi-modal reasoning ontology engine comprising a data structure on computer readable media, where the data structures has a knowledge representation fact base of knowledge objects called tasks and results, where each result corresponds to one task to form a unique task-result pair, and a premise maintenance system of truth objects that can be reused called premises and conclusions.

***Apparatus and Method for a Compositional Decision Support Reasoning System***, US Patent 6,591,257 awarded July 8, 2003. Lead inventor with four others.

An apparatus and method for determining a solution to a problem where paths in at least one pursuit associated with the problem are traversed to generate one or more decision paths by processing one or more nodes in a given one of the paths, including: evaluating a premise if the node is a premise node, and passing the premise node if the premise passes, and noting a conclusion if the node is a conclusion node, withdrawing any previous conclusions that are not associated with a parent node of the conclusion, and passing the conclusion node; processing a child node if the current node is not a leaf node and is a node that passes; terminating a decision path if the child node cannot be processed, including asserting all noted, but non-withdrawn conclusions as a solution to the problem; and generating another decision path.

***Quality of Service in a Distributed Processing Environment***, US Patent 5,958,009 awarded September 28, 1999, with Rich Friedrich and Tracy Sienknecht.

A plurality of interconnected nodes in a computer system with at least ... one intelligent sensor is associated... which selectively collects data. An observer ... filters out unchanged and zero values. A collector is associated with each network node. The intervalized collected data is asynchronously received into the collector pushed by the observer. An analyzer ... correlates the intervalized collected data...pushed from the collector.

***Computer Process With Utilization Reduction***, US Patent 8,881,164 awarded Nov 4, 2014. Lead inventor with 2 others.

A system includes computer-readable storage media encoded with code defining a computer process. The computer process is configured to monitor its own resource utilization so that it can detect a resource utilization condition. In response to a detection of the utilization condition, the computer process causes its own resource utilization to be reduced.

***Usage Tracking Agent – Insights While Measuring Customer Value***, 2011 HP TechCon - Worldwide Technology Conference (8% refereed paper acceptance rate), April 2011 with Chuck Voelkel.

***Automated End-To-End System Diagnosis of Networked Printing Services Using Model-Based Reasoning***, 9th International IFIP/IEEE Workshop on Distributed Systems - Operations and Management (DSOM), October 1998. Hewlett-Packard Labs Technical Report HPL-98-41 and 42, with George Forman, Mudita Jain, Masoud Mansouri-Samani, Alex Snoeren.

***Quality-of-Service Measurements with Model-based Management for Networked Applications***, Hewlett-Packard Laboratories Technical Report HPL-97-167, October 1997, with Mudita Jain and Jim Pruyne

***An Architecture for Adaptable Distributed Application Management (ADAM)***, Hewlett-Packard Technical Report HPL-96-30, with Kave Eshghi, March 1996.

***Requirements for Client/Server Performance Modeling***, 5th Complex Systems Engineering Synthesis and Assessment Technology Workshop (CSESAW'95) held in conjunction with IEEE International Conference on Engineering of Complex Computer Systems, Ft. Lauderdale, Florida, November 1995.

**Integration of Performance Measurement and Modeling for Open Distributed Processing, 3rd International Conference on Open Distributed Processing (ICODP)**, Brisbane, Australia, February 1995, with Rich Friedrich, Tracy Sienknecht, and Steve Saunders.

**Murky transparencies: Clarity using Performance Engineering**, Position paper at the 3rd International Conference on Open Distributed Processing (ICODP), Brisbane, Australia, February 1995, with Rich Friedrich and Tracy Sienknecht.

**A Performance Model of a Client-Server OLTP System Using SES/Workbench**, Proceedings of the Fourth Annual SES User Group Meeting April 1994 (SES, Inc, 1994)

**The implications of distributed data in a commercial environment on the design of hierarchical storage management**, Proceedings of PERFORMANCE '93 - 16th IFIP Working Group 7.3 International Symposium on Computer Performance Modeling, Measurement and Evaluation (North-Holland, Amsterdam, 1993) pp 3-25, with Tracy Sienknecht, Rich Friedrich and Peter Friedenbach.

**A Performance Study of the DCE 1.0.1 Cell Directory Service: Implications for Application and Tool Programmers**, Proceedings from International DCE Workshop, Karlsruhe, Germany, October 1993 - Client/Server Model and Beyond (Springer-Verlag, Berlin Heidelberg, 1993) 63-77, with Rich Friedrich, Peter Friedenbach, and Tracy Sienknecht.

**DCE's Cell Directory Service API Tracing: Performance Tuning and Models**, HP Internal NSA-92-020, December 1992. Pathlength Measurements of DCE's RPC on HP-UX, HP Internal IAG-92-004, March 1992.

Professional PMI, IEEE, ACM, AAAI, Business National Honor Society (Beta Gamma Sigma)



US Navy



Submarines

References Upon request.

Resume URL <http://www.martinka.org/resume/joe>

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