

Jonathan D. Saperia

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EMPLOYMENT HISTORY:

**JDS Consulting / JDS Management Software, Inc.**

**October 1999 – Present**

**Position: Founder and Principal**

Consulting in all areas of architecture, design, development and deployment of device, network, application and service level management technology for ISPs, equipment vendors, enterprises, government, military, and management application developers. Performed architectural and design/functional evaluations of NMS/OSS products for IP service providers and data modeling for large IP service provider. I created the design and architecture for management infrastructure (including CLI/SNMP interfaces) for multi-terabit optical router including control of optics and routing layers. Numerous design reviews and architectural/design recommendations for a number of vendors including leading Web load balancer vendor's management infrastructure and network performance optimization and security products. Consulted on the design and architecture of award winning management application and internal management infrastructure for bandwidth management vendor. MIB Design and writing for numerous vendors and IETF. Technical Reviewer in IETF NM area. Since 2006, extensive work on NM and architectural issues on DoD Transformational Satellite System (TSAT). Most recently developed an architecture for extremely large scale Smart Grid Internet-based application platform.

**Ambient Corporation**

**Position: NMS Team Lead**

**November 2005 – July 2007**

Created short and long-term management software strategy for broadband over power line communication vendor. In less than three months, hired staff, completed requirements and development infrastructure and created first release of new management system based on AdventNet technology shown at major trade show. In addition, designed and led development of a new generation of management software for the broadband transmission nodes in the power line network. Architected and lead development of distributed service management and provisioning system that operated across multiple service providers and very large public power networks.

**RNK Telecom**

**February 2005 – October 2005**

**Position: Vice President Software Engineering/Network Operations**

Responsible for group that managed IP network operations and all software developed and used to run this CLEC and provide a variety of services to customers. Services included pre-paid phone cards, conference calling facilities, and business and residential VoIP services using a variety of technologies (H.323, SIP, etc.). Functions included billing, account management, customer and reseller facing software, diagnostic software and management tools. Rapidly expanded team to develop new generation of software based on newer technologies such as: Java/J2EE and Oracle/MySql.

**Ohia Networks, Inc. February**

**January 2003 – December 2004**

**Position: Founder and CTO**

Ochia created a new generation of network service management software enabling cost-effective delivery of complex services such as Voice over IP or timely delivery of financial data in modern IP networks. I developed initial concepts for multiple object hierarchies and the intersection of those hierarchies for an IP-based service management system. I also created abstractions for the human interface including representation of network services (e.g., VoIP and Financial Data Services) and the technologies that make them up such as Multicast, Routing, DiffServ, etc.). Wrote functional specification, modeled system in UML (MagicDraw) and contributed to and reviewed multiple design documents. Led work on overall architecture for realizing system including J2EE environment selection, facilities to use (e.g., JMS and distribution facilities) and performance optimization. Lead development and implementation effort. Defined methods for integration with other NMS/OSS systems using XML.

**IronBridge Networks**

**December 1997 - October 1999**

**POSITION: Software Development Director/Architect**

I was responsible for architecture and development of network and element management strategy for terabit router start-up. This included both the router management infrastructure and the element manager. Designed managed object hierarchy based on management functions (FCAPS). Worked on architectural and design details related to: distribution of management system across virtual routers and CPUs, design of management system to support this complexity, security model and common access methods for both SNMP and CLI. During this time I also continued my IETF participation (see IETF section on last page). During this time I also was a reviewer of research proposals in advanced networking technology for the U.S. DOE's Office of Advanced Scientific Computing Research of the Office of Science.

**BGS Systems Inc.**

**July 1994 to December 1997**

**POSITION: Software Development Manager/Architect**

Identified new market opportunities in IP management area and led effort to capitalize on those opportunities. Built new development organization to implement a series of products based on a new architecture I developed for standards-based network and enterprise-wide capacity planning and performance management. Grew staff to 15 permanent and consulting engineers, a QA department of 4, Project Management, Release Engineering, Documentation and Support Personnel. Designed and helped implement development environment and test network for project. Managed group through the design specification and technology selection process and through development and external test in preparation for general availability. The product known as BESTview was an INTEROP Best of Show Finalist in September 1996 due to its unique combination of application tracing features and ability to correlate data from a large number of network sources. Served as co-chair of the IETF Application MIB working group in the IETF and co-author of the System Application and Application MIBs. Was a co-author of one of the SNMP proposals evaluated in current effort to bring scalable security to the SNMP framework.

**DIGITAL EQUIPMENT CORPORATION**

**October 1988 to July 1994**

**POSITION: Technical Director/Architect**

**(September 1991 to July 1994)**

Lead development of a suite of applications focusing on issues of fault, configuration and performance management with emphasis on router configuration change management. Coordinated efforts to incorporate SNMPv2 technology into products. Proposed and started

Web-based prototype of integrated IP and Domain Name System management application. Liaison to IETF for the Network Management area.

Assisted in first port of SNMPv2 code to RISC/ULTRIX environment. Worked with one of the authors to demonstrate interoperability between port and implementation running on HP hardware. At INTEROP'92 (fall), interoperability with HP LanProbe was demonstrated along with all of the authentication and privacy mechanisms. Coordinated preparation and implementation of Digital's participation in the SNMPv2 Technology Booth at the International Symposium on Integrated Network Management. Completed migration of Tk/Tcl and SNMPv2 low-level utilities to the OSF/1 Alpha environment and investigation into SNMP extensible agent technology.

Provided leadership to several sites on IP technology and operational concerns as internal IP network grew beyond the 20,000 mark. Assisted in: refining topology, router selection, installation, and operation. Installed and helped implement first secure gateway which uses IP tunneling for virtual point to point link to the Internet. Contributor in roll-out of World Wide Web technology. Lead research on statistical prediction of network performance and faults.

**POSITION: Senior Project Manager** (October 1988 to September 1991)

Project leadership for network management tools developed primarily for UNIX and TCP/IP environment. Tools supported SNMP and CMOT as well as DECNet Phase IV management. Responsible for the delivery of three major releases of these tools to Customers and the DEC services organizations.

**WANG LABORATORIES, INC.** April 1980 to October 1988

**POSITION: Senior Product Manager/Product Manager** (January 1984 to October 1988)

Hire and manage staff of senior level professionals dedicated to development and introduction of a new generation of network-based workstations. Provide overall program direction to product management, development, and external organizations. Architectural work to evolve product in existing, new, and developing standards such as SVID (versions 2,3, and 4) X-Windows, NFS, TCP/IP, etc. Member of architectural committee that defined user interface standards and mechanisms for implementation as well as data integration model and high-level communications/server architecture for a distributed processing environment. Product management of existing ARCNET based LAN.

**POSITION: Sr. Information Systems Analyst** (April 1980 to January 1984)

Designed and developed with a staff of two, automated merit review system for company; including audit and budget control functions. Wrote statistical analysis package.

**Education:**

Independent Study in Java 2000 – 2001 supervised by UMASS Boston Faculty Member.  
Continuing Education in Computer Science – Boston University Wang Institute Campus – 1988  
Colgate University/Hamilton, New York – Master of Arts with Distinction – 1977  
Framingham State College/Framingham, Massachusetts – Bachelor of Arts – 1976

**Additional Technical Training and Courses:**

May 1993 – Networkers'93 – Cisco Systems

October 1992 – Building Networks with Bridges and Routers – Advanced Computing Environments  
October 1991 – Internet Naming and Directory Services – Advanced Computing Environments  
February 1991 – TCP/IP Sub-Net Management – Network Systems Lab. – Digital Equipment Corp.  
October 1990 – Distributed File Systems and NFS – Advanced Computing Environments  
January 1990 – UNIX System V administration – AT&T  
June 1989 – Introduction to the TCP/IP Protocol Suite – Advanced Computing Environments  
June 1989 – Network Management of TCP/IP – Based Internets – Advanced Computing Environments  
January 1989 – Internetwork Network Management Seminar – NYSERNet  
December 1988 – OSI Upper Layer Protocols – Digital Equipment Corp.

**Patent and Publication References:**

Contributor to TCP Extended Statistics MIB, RFC 4898, May 2007.  
Coauthor Policy Based Management MIB RFC 4011, March 2005.  
Patent on Integrated Network Management filed, June 14, 2004.  
Provisional patent applications on Integrated Network Management filed, June 13, 2003 and June 14, 2004.  
Coauthor Configuring Networks and Devices with Simple Network Management Protocol (SNMP), RFC 3512  
Workshop: How SLAs Are Used. Network Computing, March 21, 2003  
SNMP at the Edge: Building Effective Service Management Systems, McGraw-Hill, July 2002.  
Coauthor: Policy-Based Management: Are you a Control Freak? and Analysis: No Standards, No Policy, No Management. Network Computing, January 21, 2002.  
Network and Systems Management Workshop in Network Computing on SNMPCONF – (Configuration Management with SNMP). SNMPCONF: A Key Piece to the Management Puzzle, March 5, 2001.  
Coauthor Requirements for Configuration Management of IP-based Networks RFC 3139  
Coauthor Definitions of System-Level Managed Objects, RFC 2287  
Coauthor Application Management MIB RFC 2564  
Author RFC 1559 DECNet Phase IV MIB Module  
Coauthor DNS Resolver MIB Module RFC 1612 and DNS Server MIB Module RFC 1611  
Joint Patent Award # 4,809,220: Electronic Processing System Using Printer and Microprocessor.

**Coauthor of other Internet-Drafts:**

Policy-Based Enhancements to the SNMP Framework.

**IETF Activities:**

NETCONF/YANG WG (Orig. NETMOD, etc.) meeting and on-line work (April 2007 – Present)  
Co-chair SNMP Configuration Management Working Group (January 2000 – March 2005 – working group successfully concluded)  
NM Technical Advisor to the Inter-Domain Routing Working Group (2001 – 2003)  
Invitational Meeting on Configuration Management – Prepared recommendations for configuration management in TCP/IP based internets (September 1999)  
Operations and Management Area Technical Reviewer  
Co-chair Application MIB Working Group (working group successfully concluded)

Chair DECNet Phase IV MIB Working Group (working group successfully concluded)

**Development and Delivery of Courses and Lectures:**

September 2001 (Paris), IP Policy Conference, Policy Management with SNMP- An Integrated Solution and Policy Management – The Money Connection.

May 2000, Presentation at Joint IETF/NANOG meeting on SNMPCONF technology.

Customized training for organizations on network management technology.

IP QoS Congress (London) – November 2000 – Effectively Controlling the Delivery and Management of QoS in IP Networks with SNMP.

Co-instructor with Dr. Jeff Case – May 2000 – October 2000 for Interop for 2 day course on SNMP and SNMPv3.

April 1993 – Application/Vendors uses for SNMPv2 – International Symposium on Integrated Net. Mgmt.

October 1992 – Use of SNMP in Network Fault and Performance Management – INTEROP'92

Technology Transfer Institute February 1992 – SNMP Standards: Current Status and Future Work – Network May 1990 – Co-Developed and Delivered Network Management for TCP/IP and Hybrids

January 1990 – TCP/IP Network Management – Delivered at Digital Equipment's Network University

For additional information send mail to: [saperia@jdscons.com](mailto:saperia@jdscons.com) or visit [www.jdscons.com](http://www.jdscons.com)