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Research and Consulting: Telecommunications, Network Communications, and Mobile Wireless Technologies

Scientist, educator, and technologist with over 25 years of experience; co-author on over 25 scientific publications, journal articles, and peer-reviewed papers; named inventor on over 100 issued and filed patents; industry fellow and lecturer at UC Berkeley Engineering–Center for Entrepreneurship and Technology (CET)

EDUCATION

- **Ph.D.**, Computer Science specializing in networking and communications, UC Berkeley
- **M.Sc.**, Electrical Engineering, Tel Aviv University
- **B.Sc.**, Mathematics and Computer Science, Tel Aviv University

EXPERTISE

Network communications, telecommunications, Internet protocols, and mobile wireless:

- **Communication networks:** Internet protocols; TCP/IP suite; TCP; UDP; IP; VoIP; Ethernet; network protocols; network software applications; data link, network, and transport layers (L2, L3, L4)
- **Internet software:** Internet software applications; distributed computing; cloud computing; Web applications; FTP; HTTP; Java; client server; file transfer; multicast; streaming media
- **Routing/switching:** LAN; WAN; VPN; routing protocols; RIP; BGP; MPLS; OSPF; IS-IS; DNS; QoS; switching; packet switching; network infrastructure; network communication architectures
- **Mobile wireless:** wireless LAN; 802.11; cellular systems; mobile devices; smartphone technologies

ACCOMPLISHMENTS

- Selected as principal investigator for three US Department of Defense (DARPA) projects
- Directed research project on networking computation for the US Air Force Research Lab (AFRL)
- Led and developed the first network resourcescheduling service for grid computing
- Administered wireless research project for an undisclosed US federal agency
- Managed and engineered the first demonstrated transatlantic dynamic allocation of 10Gbps Lambdas as a grid service
- Spearheaded the development of the first demonstrated wire-speed active network on commercial hardware
- Invented over 100 patents; over 50 prosecuted *pro se* in front of the USPTO
- Created and chaired Nortel Networks' EDN Patent Committee

PROFESSIONAL EXPERIENCE

University of California, Berkeley, Berkeley, California 2000-Present
Berkeley Industry Fellow, Lecturer, Visiting Scientist, Ph.D. Candidate, Nortel's Scientist Liaison

Some positions and projects were concurrent, others sequential

- Serves as an industry fellow and lecturer at the Center for Entrepreneurship and Technology (CET).
- Studied network services, telecommunication systems and software, communications infrastructure, and data centers
- Developed long-term technology for the enterprise market, integrating communication and computing technologies
- Conducted research projects in data centers (RAD Labs), telecommunication infrastructure (SAHARA), and wireless systems (ICEBERG)
- Acted as scientific liaison between Nortel Research Lab and UC Berkeley, providing tangible value in advanced technologies
- Earned a Ph.D. in Computer Science with a specialization in communications and networking

TelecommNet Consulting, Inc. (Innovations-IP) Sunnyvale, California 2006-Present
Principal Scientist

- Consults in the areas of network communications, telecommunications, Internet protocols, and smartphone mobile wireless devices
- Provides architecture and system consultation for projects relating to computer networks, mobile wireless devices, and Internet web technologies
- Acts as an expert witness in network communications patent infringement lawsuits

VisuMenu, Inc., Sunnyvale, California 2010-Present
Co- Founder and Chief Technology Officer (CTO)

- Designs and develops architecture and system of visual IVR technologies for smartphones and wireless mobile devices in the area of network communications
- Designs crawler/spider system for IVR / PBX using Asterisk, SIP, and VoIP
- Deploys the system as cloud networking and cloud computing utilizing Amazon Web Services

Ixia, Santa Clara, California 2008 - 2008
Communications Consultant

- Researched and developed advanced network communications testing technologies:
 - IxNetwork/IxN2X — tested IP routing and switching devices and broadband access equipment. Provided traffic generation and emulation for the full range of protocols: routing, MPLS, layer 2/3 VPNs, carrier Ethernet, broadband access, and data center bridging
 - IxLoad — quickly and accurately modeled high-volume video, data, and voice subscribers and servers to test real-world performance of multiservice delivery and security platforms
 - IxCatapult — emulated a broad range of wireless access and core protocols to test wireless components and systems that, when combined with IxLoad, provides an end-to-end solution for testing wireless service quality
 - IxVeriWave — employed a client-centric model to test Wi-Fi and wireless LAN networks by generating repeatable large-scale, real-world test scenarios that are virtually impossible to create by any other means

- Test automation — provided simple, comprehensive lab automation to help test engineering teams create, organize, catalog, and schedule execution of tests

Nortel Networks, Santa Clara, California

1996 - 2007

Originally employed by Bay Networks, which was acquired by Nortel Networks

Principal Scientist, Principal Architect, Principal Engineer, Senior Software Engineer

- Held scientific and research roles at Nortel Labs, Bay Architecture Labs, and in the office of the CTO

Principal Investigator for US Department of Defense (DARPA) Projects

- Conceived, proposed, and completed three research projects: active networks, DWDM-RAM, and a networking computation project for Air Force Research Lab (AFRL)
- Led a wireless research project for an undisclosed US federal agency

Academic and Industrial Researcher

- Analyzed new technologies to reduce risks associated with R&D investment
- Spearheaded research collaboration with leading universities and professors at UC Berkeley, Northwestern University, University of Amsterdam, and University of Technology, Sydney
- Evaluated competitive products relative to Nortel's products and technology
- Proactively identified prospective business ideas, which led to new networking products
- Predicted technological trends through researching the technological horizon and academic sphere
- Designed software for switches, routers, and network communications devices
- Developed systems and architectures for switches, routers, and network management
- Researched and developed the following projects:

▪ Data-Center Communications: network and server orchestration	2006-2007
▪ DRAC: SOA-facilitated L1/L2/L3 network dynamic controller	2003-2007
▪ Omega: classified wireless project for undisclosed US Federal Agency	2006-2006
▪ Open platform: project for the US Air Force Research Laboratory (AFRL)	2005-2005
▪ Network resource orchestration for Web services workflows	2004-2005
▪ Proxy study between Web/grids services and network services	2004-2004
▪ Streaming content replication: real-time A/V media multicast at edge	2003-2004
▪ DWDM-RAM: US DARPA-funded program on agile optical transport	2003-2004
▪ Packet capturing and forwarding service on IP and Ethernet traffic	2002-2003
▪ CO2: content-aware agile networking	2001-2003
▪ Active networks: US DARPA-funded research program	1999-2002
▪ ORE: programmable network service platform	1998-2002
▪ JVM platform: Java on network devices	1998-2001
▪ Web-based device management: network device management	1996-1997

Technology Innovator and Patent Leader

- Created and chaired Nortel Networks' EDN Patent Committee
- Facilitated continuous stream of innovative ideas and their conversion into intellectual property rights
- Developed intellectual property assets through invention and analysis of existing technology portfolios

Aptel Communications, Netanya, Israel 1994-1995

Software Engineer, Team Leader

Start-up company focused on mobile wireless CDMA spread spectrum PCN/PCS

- Developed a mobile wireless device using an unlicensed band [Direct Sequence Spread Spectrum (DSSS)]
- Designed and managed a personal communication network (PCN) and personal communication system (PCS), which are the precursors of short text messages (SMS)
- Designed and developed network communications software products (mainly in C/C++)
- Brought a two-way paging product from concept to development

Scitex Ltd., Herzeliya, Israel 1990-1993

Software Engineer, Team Leader

Software and hardware company acquired by Hewlett Packard (HP)

- Developed system and network communications (mainly in C/C++)
- Invented Parallel SIMD Architecture
- Participated in the Technology Innovation group

Shalev, Ramat-HaSharon, Israel 1987-1990

Start-up company

Software Engineer

- Developed real-time software and algorithms (mainly in C/C++ and Pascal)

PROFESSIONAL ASSOCIATIONS

- IEEE senior member
- IEEE CNSV co-chair, Intellectual Property SIG (2013)
- President Next Step Toastmasters (an advanced TM club in the Silicon Valley) (2013-2014)
- Technical co-chair, IEEE Hot Interconnects 2005 at Stanford University
- Member, IEEE Communications Society (COMMSOC)
- Member, IEEE Computer Society
- Member, IEEE Systems, Man, and Cybernetics Society
- Member, IEEE-USA Intellectual Property Committee
- Member, ACM, ACM Special Interest Group on Data Communication (SIGCOM)
- Member, ACM Special Interest Group on Hypertext, Hypermedia, and Web (SIGWEB)
- Member, IEEE Consultants' Network (CNSV)
- Global Member, Internet Society (ISOC)
- President Java Users Group – Silicon Valley Mountain View, CA, 1999-2000
- Toastmasters International

ADVISORY BOARDS

- Quixey – search engine for wireless mobile apps
- Mytopia – mobile social games
- iLeverage – Israeli Innovations

PROFESSIONAL AWARDS

- Top Talent Award – Nortel
- Top Inventors Award – Nortel EDN
- Certified IEEE-WCET - Wireless Communications Engineering Technologies
- Toastmasters International - Competent Communicator (twice)
- Toastmasters International - Advanced Communicator Bronze

Patents and Publications

(Not an exhaustive list)

Patents Issued

US 9,184,989	Grid proxy architecture for network resources	Link
US 9,083,728	Systems and methods to support sharing and exchanging in a network	Link
US 9,021,130	Photonic line sharing for high-speed routers	Link
US 9,001,819	Systems and methods for visual presentation and selection of IVR menu	Link
US 8,949,846	Time-value curves to provide dynamic QoS for time sensitive file transfers	Link
US 8,929,517	Systems and methods for visual presentation and selection of IVR menu	Link
US 8,903,073	Systems and methods for visual presentation and selection of IVR menu	Link
US 8,898,274	Grid proxy architecture for network resources	Link
US 8,880,120	Device and method for providing enhanced telephony	Link
US 8,879,703	System method and device for providing tailored services when call is on-hold	Link
US 8,879,698	Device and method for providing enhanced telephony	Link
US 8,867,708	Systems and methods for visual presentation and selection of IVR menu	Link
US 8,787,536	Systems and methods for communicating with an interactive voice response system	Link
US 8,782,230	Method and apparatus for using a command design pattern to access and configure network elements	Link
US 8,762,963	Translation of programming code	Link
US 8,762,962	Methods and apparatus for automatic translation of a computer program language code	Link
US 8,745,573	Platform-independent application development framework	Link
US 8,731,148	Systems and methods for visual presentation and selection of IVR menu	Link
US 8,688,796	Rating system for determining whether to accept or reject objection raised by user in social network	Link
US 8,619,793	Dynamic assignment of traffic classes to a priority queue in a packet forwarding device	Link
US 8,572,303	Portable universal communication device	Link
US 8,553,859	Device and method for providing enhanced telephony	Link

<u>US 8,548,131</u>	<u>Systems and methods for communicating with an interactive voice response system</u>	<u>Link</u>
<u>US 8,537,989</u>	<u>Device and method for providing enhanced telephony</u>	<u>Link</u>
<u>US 8,341,257</u>	<u>Grid proxy architecture for network resources</u>	<u>Link</u>
<u>US 8,161,139</u>	<u>Method and apparatus for intelligent management of a network element</u>	<u>Link</u>
<u>US 8,146,090</u>	<u>Time-value curves to provide dynamic QoS for time sensitive file transfer</u>	<u>Link</u>
<u>US 8,078,708</u>	<u>Grid proxy architecture for network resources</u>	<u>Link</u>
<u>US 7,944,827</u>	<u>Content-aware dynamic network resource allocation</u>	<u>Link</u>
<u>US 7,860,999</u>	<u>Distributed computation in network devices</u>	<u>Link</u>
<u>US 7,734,748</u>	<u>Method and apparatus for intelligent management of a network element</u>	<u>Link</u>
<u>US 7,710,871</u>	<u>Dynamic assignment of traffic classes to a priority queue in a packet forwarding device</u>	<u>Link</u>
<u>US 7,580,349</u>	<u>Content-aware dynamic network resource allocation</u>	<u>Link</u>
<u>US 7,433,941</u>	<u>Method and apparatus for accessing network information on a network device</u>	<u>Link</u>
<u>US 7,359,993</u>	<u>Method and apparatus for interfacing external resources with a network element</u>	<u>Link</u>
<u>US 7,313,608</u>	<u>Method and apparatus for using documents written in a markup language to access and configure network elements</u>	<u>Link</u>
<u>US 7,260,621</u>	<u>Object-oriented network management interface</u>	<u>Link</u>
<u>US 7,237,012</u>	<u>Method and apparatus for classifying Java remote method invocation transport traffic</u>	<u>Link</u>
<u>US 7,127,526</u>	<u>Method and apparatus for dynamically loading and managing software services on a network device</u>	<u>Link</u>
<u>US 7,047,536</u>	<u>Method and apparatus for classifying remote procedure call transport traffic</u>	<u>Link</u>
<u>US 7,039,724</u>	<u>Programmable command-line interface API for managing operation of a network device</u>	<u>Link</u>
<u>US 6,976,054</u>	<u>Method and system for accessing low-level resources in a network device</u>	<u>Link</u>
<u>US 6,970,943</u>	<u>Routing architecture including a compute plane configured for high-speed processing of packets to provide application layer support</u>	<u>Link</u>
<u>US 6,950,932</u>	<u>Security association mediator for Java-enabled devices</u>	<u>Link</u>
<u>US 6,850,989</u>	<u>Method and apparatus for automatically configuring a network switch</u>	<u>Link</u>

<u>US 6,845,397</u>	<u>Interface method and system for accessing inner layers of a network protocol</u>	<u>Link</u>
<u>US 6,842,781</u>	<u>Download and processing of a network management application on a network device</u>	<u>Link</u>
<u>US 6,772,205</u>	<u>Executing applications on a target network device using a proxy network device</u>	<u>Link</u>
<u>US 6,564,325</u>	<u>Method of and apparatus for providing multi-level security access to system</u>	<u>Link</u>
<u>US 6,175,868</u>	<u>Method and apparatus for automatically configuring a network switch</u>	<u>Link</u>
<u>US 6,170,015</u>	<u>Network apparatus with Java co-processor</u>	<u>Link</u>
<u>US 8,687,777</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,681,951</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,625,756</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,594,280</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,548,135</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,406,388</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,345,835</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,223,931</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,160,215</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,155,280</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,054,952</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>US 8,000,454</u>	<u>Systems and methods for visual presentation and selection of IVR menu</u>	<u>Link</u>
<u>EP 1,905,211</u>	<u>Technique for authenticating network users</u>	<u>Link</u>
<u>EP 1,142,213</u>	<u>Dynamic assignment of traffic classes to a priority queue in a packet forwarding device</u>	<u>Link</u>
<u>EP 1,671,460</u>	<u>Method and apparatus for scheduling resources on a switched underlay network</u>	<u>Link</u>
<u>CA 2,358,525</u>	<u>Dynamic assignment of traffic classes to a priority queue in a packet forwarding device</u>	<u>Link</u>

Patent Applications Published and Pending

(Not an exhaustive list)

US 20150058490	Grid Proxy Architecture for Network Resources	Link
US 20150010136	Systems and Methods for Visual Presentation and Selection of IVR Menu	Link
US 20140379784	Method and Apparatus for Using a Command Design Pattern to Access and Configure Network Elements	Link
US 20140105025	Dynamic Assignment of Traffic Classes to a Priority Queue in a Packet Forwarding Device	Link
US 20140105012	Dynamic Assignment of Traffic Classes to a Priority Queue in a Packet Forwarding Device	Link
US 20140012991	Grid Proxy Architecture for Network Resources	Link
US 20130080898	Systems and Methods for Electronic Communications	Link
US 20130022191	Systems and Methods for Visual Presentation and Selection of IVR Menu	Link
US 20130022183	Systems and Methods for Visual Presentation and Selection of IVR Menu	Link
US 20130022181	Systems and Methods for Visual Presentation and Selection of IVR Menu	Link
US 20120180059	Time-Value Curves to Provide Dynamic QOS for Time Sensitive File Transfers	Link
US 20120063574	Systems and Methods for Visual Presentation and Selection of IVR Menu	Link
US 20110225330	Portable Universal Communication Device	Link
US 20100220616	Optimizing Network Connections	Link
US 20100217854	Method and Apparatus for Intelligent Management of a Network Element	Link
US 20100146492	Translation of Programming Code	Link
US 20100146112	Efficient Communication Techniques	Link
US 20100146111	Efficient Communication in a Network	Link
US 20090313613	Methods and Apparatus for Automatic Translation of a Computer Program Language Code	Link
US 20090313004	Platform-Independent Application Development Framework	Link
US 20090279562	Content-aware dynamic network resource allocation	Link
US 20080040630	Time-Value Curves to Provide Dynamic QoS for Time Sensitive File	Link

Transfers

US 20070169171	Technique for authenticating network users	Link
US 20060123481	Method and apparatus for network immunization	Link
US 20060075042	Extensible Resource Messaging Between User Applications and Network Elements in a Communication Network	Link
US 20050083960	Method and Apparatus for Transporting Parcels of Data Using Network Elements with Network Element Storage	Link
US 20050076339	Method and Apparatus for Automated Negotiation for Resources on a Switched Underlay Network	Link
US 20050076336	Method and Apparatus for Scheduling Resources on a Switched Underlay Network	Link
US 20050076173	Method And Apparatus for Preconditioning Data to Be Transferred on a Switched Underlay Network	Link
US 20050076099	Method and Apparatus for Live Streaming Media Replication in a Communication Network	Link
US 20050074529	Method and apparatus for transporting visualization information on a switched underlay network	Link
US 20040076161	Dynamic Assignment of Traffic Classes to a Priority Queue in a Packet Forwarding Device	Link
US 20020021701	Dynamic Assignment of Traffic Classes to a Priority Queue in a Packet Forwarding Device	Link
WO 2006/063052	Method and apparatus for network immunization	Link
WO 2007/008976	Technique for authenticating network users	Link
WO2000/0054460	Method and apparatus for accessing network information on a network device	Link
US 20140156556	Time-variant rating system and method thereof	Link
US 20140156758	Reliable rating system and method thereof	Link

Publications

(Not an exhaustive list)

- “R&D Models for Advanced Development & Corporate Research” Understanding Six Models of Advanced R&D - Ikhtlaq Sidhu, Tal Lavian, Victoria Howell - University of California, Berkeley. Accepted paper for 2015 ASEE Annual Conference and Exposition- June 2015
- “Communications Architecture in Support of Grid Computing”, Tal Lavian, Scholar's Press 2013 ISBN 978-3-639-51098-0.
- [“Applications Drive Secure Lightpath Creation across Heterogeneous Domains](#), Feature Topic Optical Control Planes for Grid Networks: Opportunities, Challenges and the Vision.” Gommans L.; Van Oudenaarde B.; Dijkstra F.; De Laat C.; Lavian T.; Monga I.; Taal A.; Travostino F.; Wan A.; IEEE Communications Magazine, vol. 44, no. 3, March 2006, pp. 100-106.
- [Lambda Data Grid: Communications Architecture in Support of Grid Computing](#). Tal I. Lavian, Randy H. Katz; Doctoral Thesis, University of California at Berkeley. January 2006.
- “Information Switching Networks.” Hoang D.B.; T. Lavian; The 4th Workshop on the Internet, *Telecommunications and Signal Processing, WITSP2005*, December 19-21, 2005, Sunshine Coast, Australia.
- [“Impact of Grid Computing on Network Operators and HW Vendors](#).” Allcock B.; Arnaud B.; Lavian T.; Papadopoulos P.B.; Hasan M.Z.; Kaplow W.; *IEEE Hot Interconnects at Stanford University 2005*, pp.89-90.
- [DWDM-RAM: A Data Intensive Grid Service Architecture Enabled by Dynamic Optical Networks](#). Lavian T.; Mambretti J.; Cutrell D.; Cohen H.J.; Merrill S.; Durairaj R.; Daspit P.; Monga I.; Naiksatam S.; Figueira S.; Gutierrez D.; Hoang D.B., Travostino F.; *CCGRID 2004*, pp. 762-764.
- [DWDM-RAM: An Architecture for Data Intensive Service Enabled by Next Generation Dynamic Optical Networks](#). Hoang D.B.; Cohen H.; Cutrell D.; Figueira S.; Lavian T.; Mambretti J.; Monga I.; Naiksatam S.; Travostino F.; Proceedings IEEE Globecom 2004, Workshop on High-Performance Global Grid Networks, Houston, 29 Nov. to 3 Dec. 2004, pp.400-409.
- [Implementation of a Quality of Service Feedback Control Loop on Programmable Routers](#). Nguyen C.; Hoang D.B.; Zhao, I.L.; Lavian, T.; Proceedings, 12th IEEE International Conference on Networks 2004. (ICON 2004) Singapore, Volume 2, 16-19 Nov. 2004, pp.578-582.
- [A Platform for Large-Scale Grid Data Service on Dynamic High-Performance Networks](#). Lavian T.; Hoang D.B.; Mambretti J.; Figueira S.; Naiksatam S.; Kaushil N.; Monga I.; Durairaj R.; Cutrell D.; Merrill S.; Cohen H.; Daspit P.; Travostino F.; GridNets 2004, San Jose, CA., October 2004.
- [DWDM-RAM: Enabling Grid Services with Dynamic Optical Networks](#). Figueira S.; Naiksatam S.; Cohen H.; Cutrell D.; Daspit, P.; Gutierrez D.; Hoang D. B.; Lavian T.; Mambretti J.; Merrill S.; Travostino F.; Proceedings, 4th IEEE/ACM International Symposium on Cluster Computing and the Grid, Chicago, USA, April 2004, pp. 707-714.
- [DWDM-RAM: Enabling Grid Services with Dynamic Optical Networks](#). Figueira S.; Naiksatam S.; Cohen H.; Cutrell D.; Gutierrez D.; Hoang D.B.; Lavian T.; Mambretti J.; Merrill S.; Travostino F.; 4th IEEE/ACM International Symposium on Cluster Computing and the Grid, Chicago, USA, April 2004.
- [An Extensible, Programmable, Commercial-Grade Platform for Internet Service Architecture](#). Lavian T.; Hoang D.B.; Travostino F.; Wang P.Y.; Subramanian S.; Monga I.; IEEE Transactions on Systems, Man, and Cybernetics on Technologies Promoting Computational

Intelligence, Openness and Programmability in Networks and Internet Services Volume 34, Issue 1, Feb. 2004, pp.58-68.

- [*DWDM-RAM: An Architecture for Data Intensive Service Enabled by Next Generation Dynamic Optical Networks*](#). Lavian T.; Cutrell D.; Mambretti J.; Weinberger J.; Gutierrez D.; Naiksatam S.; Figueira S.; Hoang D. B.; Supercomputing Conference, SC2003 Igniting Innovation, Phoenix, November 2003.
- [*Edge Device Multi-Unicasting for Video Streaming*](#). Lavian T.; Wang P.; Durairaj R.; Hoang D.; Travostino F.; Telecommunications, 2003. ICT 2003. 10th International Conference on Telecommunications, Tahiti, Volume 2, 23 Feb.-1 March, 2003 pp. 1441-1447.
- [*The SAHARA Model for Service Composition Across Multiple Providers*](#). Raman B.; Agarwal S.; Chen Y.; Caesar M.; Cui W.; Lai K.; Lavian T.; Machiraju S.; Mao Z. M.; Porter G.; Roscoe T.; Subramanian L.; Suzuki T.; Zhuang S.; Joseph A. D.; Katz Y.H.; Stoica I.; Proceedings of the First International Conference on Pervasive Computing. ACM Pervasive 2002, pp. 1-14.
- [*Enabling Active Flow Manipulation in Silicon-Based Network Forwarding Engines*](#). Lavian T.; Wang P.; Travostino F.; Subramanian S.; Duraraj R.; Hoang D.B.; Sethaput V.; Culler D.; Proceeding of the Active Networks Conference and Exposition, 2002.(DANCE) 29-30 May 2002, pp. 65-76.
- [*Practical Active Network Services within Content-Aware Gateways*](#). Subramanian S.; Wang P.; Durairaj R.; Rasimas J.; Travostino F.; Lavian T.; Hoang D.B.; Proceeding of the DARPA Active Networks Conference and Exposition, 2002.(DANCE) 29-30 May 2002, pp. 344-354.
- [*Active Networking on a Programmable Network Platform*](#). Wang P.Y.; Lavian T.; Duncan R.; Jaeger R.; Fourth IEEE Conference on Open Architectures and Network Programming (OPENARCH), Anchorage, April 2002.
- [*Intelligent Network Services through Active Flow Manipulation*](#). Lavian T.; Wang P.; Travostino F.; Subramanian S.; Hoang D.B.; Sethaput V.; IEEE Intelligent Networks 2001 Workshop (IN2001), Boston, May 2001.
- [*Intelligent Network Services through Active Flow Manipulation*](#). Lavian T.; Wang P.; Travostino F.; Subramanian S.; Hoang D.B.; Sethaput V.; Intelligent Network Workshop, 2001 IEEE 6-9 May 2001, pp.73 -82.
- [*Enabling Active Flow Manipulation in Silicon-based Network Forwarding Engine*](#). Lavian, T.; Wang, P.; Travostino, F.; Subramanian S.; Hoang D.B.; Sethaput V.; Culler D.; Journal of Communications and Networks, March 2001, pp.78-87.
- [*Active Networking on a Programmable Networking Platform*](#). Lavian T.; Wang P.Y.; IEEE Open Architectures and Network Programming, 2001, pp. 95-103.
- [*Enabling Active Networks Services on a Gigabit Routing Switch*](#). Wang P.; Jaeger R.; Duncan R.; Lavian T.; Travostino F.; 2nd Workshop on Active Middleware Services, 2000.
- [*Dynamic Classification in Silicon-Based Forwarding Engine Environments*](#). Jaeger R.; Duncan R.; Travostino F.; Lavian T.; Hollingsworth J.; Selected Papers. 10th IEEE Workshop on Metropolitan Area and Local Networks, 1999. 21-24 Nov. 1999, pp.103-109.
- [*Open Programmable Architecture for Java-Enabled Network Devices*](#). Lavian, T.; Jaeger, R. F.; Hollingsworth, J. K.; IEEE Hot Interconnects Stanford University, August 1999, pp. 265-277.
- *Open Java SNMP MIB API*. Rob Duncan, Tal Lavian, Roy Lee, Jason Zhou, Bay Architecture Lab Technical Report TR98-038, December 1998.
- *Java-Based Open Service Interface Architecture*. Lavian T.; Lau S.; BAL TR98-010 Bay Architecture Lab Technical Report, March 1998.

- *Parallel SIMD Architecture for Color Image Processing*. Lavian T. Tel – Aviv University, Tel – Aviv, Israel, November 1995.
- [Grid Network Services, Draft-ggf-ghpn-netservices-1.0](#). George Clapp, Tiziana Ferrari, Doan B. Hoang, Gigi Karmous-Edwards, Tal Lavian, Mark J. Leese, Paul Mealor, Inder Monga, Volker Sander, Franco Travostino, Global Grid Forum(GGF).
- [Project DRAC: Creating an applications-aware network](#). Travostino F.; Keates R.; Lavian T.; Monga I.; Schofield B.; Nortel Technical Journal, February 2005, pp. 23-26.
- [Optical Network Infrastructure for Grid, Draft-ggf-ghpn-opticalnets-1](#). Dimitra Simeonidou, Reza Nejabati, Bill St. Arnaud, Micah Beck, Peter Clarke, Doan B. Hoang, David Hutchison, Gigi Karmous-Edwards, Tal Lavian, Jason Leigh, Joe Mambretti, Volker Sander, John Strand, Franco Travostino, Global Grid Forum(GGF) GHPN Standard GFD-I.036 August 2004.
- [Popeye - Using Fine-grained Network Access Control to Support Mobile Users and Protect Intranet Hosts](#). Mike Chen, Barbara Hohlt, Tal Lavian, December 2000.

Presentations and Talks

(Not an exhaustive list)

- [Lambda Data Grid: An Agile Optical Platform for Grid Computing and Data-intensive Applications](#).
- [Web Services and OGSA](#)
- [WINER Workflow Integrated Network Resource Orchestration](#).
- [Technology & Society](#)
- [Abundant Bandwidth and how it affects us?](#)
- [Active Content Networking\(ACN\)](#)
- [DWDM-RAM:Enabling Grid Services with Dynamic Optical Networks](#)
- [Application-engaged Dynamic Orchestration of Optical Network Resources](#)
- [A Platform for Data Intensive Services Enabled by Next Generation Dynamic Optical Networks](#)
- [Optical Networks](#)
- [Grid Optical Network Service Architecture for Data Intensive Applications](#)
- [Optical Networking & DWDM](#)
- [OptiCal Inc.](#)
- [OptiCal & LUMOS Networks](#)
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