

Paul J. Leach

Personal

Born in Seattle, Washington, November 13, 1951.

Married, no children.

Education

1969-1972 Undergraduate work at the Massachusetts Institute of Technology, Cambridge, MA

1977-1978 Undergraduate work at the Massachusetts Institute of Technology, Cambridge, MA

Employment

1991-2012 Distinguished Engineer, Microsoft Corporation, Seattle, WA

1980-1991 Apollo Fellow, Apollo Computer/Hewlett-Packard, Chelmsford, MA

1977-1980 Senior Research Engineer, Prime Computer, Framingham, MA

1972-1977 Systems Programmer, Applicon, Burlington, MA
Systems Programmer, Zurich American Insurance, Chicago, IL
Systems Programmer, Datalogics, Chicago, IL

1992-present Affiliate Professor, University of Washington Department of Computer Science

1979-1980 Member, Adjunct Faculty, Boston University, 1979-80

Research Interests

Computer systems: operating systems, distributed systems, communications, security.

Major Professional Activities

Member of the Program Committee, 4th ACM Conference on Principles of Distributed Computing, August 1985

Member of the Program Committee, ACM Workshop on Accommodating Heterogeneity, December 1985

Program Chair, IEEE Workshop on Large Grained Parallelism, October, 1986

Member of the Program Committee, 5th ACM Conference on Principles of Distributed Computing, August 1986

Member of the Program Committee, IEEE Workshop on Workstation Operating Systems I, 1988

Member of the Program Committee, IEEE Workshop on Workstation Operating Systems II, 1989

Member of the Program Committee, 13th ACM Symposium on Operating System Principles, October 1991

Member of the Program Committee, 14th ACM Symposium on Operating System Principles, October 1993

Member of the Program Committee, First Symposium on Operating Systems Design and Implementation (OSDI), November, 1994

Member of the Program Committee, Fifth Workshop on Hot Topics in Operating Systems (HotOS-V), May, 1995

Member of the Program Committee, USENIX Conference on Object-Oriented Technologies (COOTS), June, 1995

Member of the Program Committee, First International Conference on Mobile Computing and Networking (MobiCom), November, 1995

Program Co-Chair, Third Symposium on Operating Systems Design and Implementation (OSDI), February, 1999

Member of the Program Committee, Usenix Annual Technical Conference (ATC), June, 2013

Other Professional Activities, 1980-present

Invited participant, Second ACM SIGOPS European Workshop on Distributed Computing, Amsterdam, 1986

Invited participant, 4th Workshop on Berkeley Unix, September, 1987

Invited participant, Workshop on Nationwide File Systems, Carnegie Mellon University, Pittsburgh, PA, 1988

Invited participant, Sixth ACM SIGOPS European Workshop, Dagstuhl Castle, Germany, September 1994

Invited participant, Seventh ACM SIGOPS European Workshop, Connemara, Ireland, September 1996

Invited participant, Sixth Workshop on Hot Topics in Operating Systems, Cape Cod, MA, 1997

Referee for IEEE Computer.

Member of the Association for Computing Machinery.

Member of the Institute of Electrical and Electronics Engineers.

Treasurer, ACM Special Interest Group on Operating Systems (SIGOPS), 1997-1999

Courses Taught

CS 430, Operating Systems, Boston University, 1979-80.

Publications

Leach, P. J., Levine, P.H., Douros, B. D., Hamilton, J. A., Nelson, D. L., Stumpf, B.L.,
"The Architecture of an Integrated Local Network,"
IEEE Journal on Selected Areas in Communications,
v.SAC-1, n.5, Nov. 1983, pp. 842-857.

Nelson, D. L., Leach, P. J.,
"The Architecture and Applications of the Apollo Domain,"
IEEE Computer Graphics and Applications,
April, 1984, pp. 58-66.

Leach, P. J.,
"The Whys and Wherefores of Distributed Resource Sharing,"
UNIX Review,
May 1985.

Leach, P. J., Levine, P.H., Hamilton, J. A., Stumpf, B.L.,
"The File System of an Integrated Local Network,"
in *Proceedings ACM Computer Science Conference*,
New Orleans, LA, March 13-15, 1985.

Michael B. Jones, Paul J. Leach, Richard P. Draves, Joseph S. Barrera, III.
“Modular Real-Time Resource Management in the Rialto Operating System,”
in *Proceedings of the Fifth Workshop on Hot Topics in Operating Systems*,
Orcas Island, WA, May, 1995.

Michael B. Jones, Joseph S. Barrera III, Alessandro Forin, Paul J. Leach, Daniela Ia Rosu, and Marcel-Catalin Rosu,
“An Overview of the Rialto Real-Time Architecture,”
in *Proceedings of the Seventh ACM SIGOPS European Workshop*,
Connemara, Ireland, September 1996.

P. Leach and C. Wieder,
“Query routing: Applying systems thinking to Internet search,”
in *Proceedings of the Sixth Workshop on Hot Topics in Operating Systems*,
Cape Cod, MA, 1997

J. Franks, P. Hallam-Baker, J. Hostetler, P. Leach, A. Luotonen, E. Sink, L. Stewart,
An Extension to HTTP : Digest Access Authentication,
RFC 2029, January 1997

J. Mogul, P. Leach,
Simple Hit-Metering and Usage-Limiting for HTTP,
RFC 2227, January 1997

Roy T. Fielding, James Gettys, Jeffrey C. Mogul, Henrik Frystyk Nielsen, Larry Masinter, Paul J. Leach, and Tim
Berners-Lee,
Hypertext Transfer Protocol---HTTP/1.1,
RFC 2616, June 1999.

J. Franks, P. Hallam-Baker, J. Hostetler, S. Lawrence, P. Leach, A. Luotonen, L. Stewart,
HTTP Authentication: Basic and Digest Access Authentication
RFC 2617, June 1999

J. Allen, P. Leach, R. Hedberg,
CIP Transport Protocols
RFC 2653, August 1999

H. Nielsen, P. Leach, S. Lawrence,
An HTTP Extension Framework,
RFC 2774, February 2000

P. Leach, C. Newman,
Using Digest Authentication as a SASL Mechanism,
RFC 2831, May 2000

P. Leach, M. Mealing, R. Salz
A Universally Unique Identifier (UUID) URN Namespace
RFC 4122, July 2005

L. Zhu, P. Leach, K. Jaganathan, W. Ingersoll
*The Simple and Protected Generic Security Service Application Program Interface (GSS-API) Negotiation
Mechanism*
RFC 4178, October 2005

L. Zhu, P. Leach, K. Jaganathan

Kerberos Cryptosystem Negotiation Extension
RFC 4537, June 2006

L. Zhu, P. Leach, S. Hartman
Anonymity Support for Kerberos
RFC 6112, April 2011

Books, Pamphlets, and Invited Papers

Zahn, Lisa; Dineen, T. H., Leach, P. J., Martin, E. A., Mishkin, N. W., Pato, J. N., Wyant, G. L.,
Network Computing Architecture
Prentice-Hall, 1990
ISBN 0-13-611674-4

Kong, Mike; Dineen, T. H., Leach, P. J., Martin, E. A., Mishkin, N. W., Pato, J. N., Wyant, G. L.,
Network Computing System Reference Manual
Prentice-Hall, 1990
ISBN 0-13-617085-4

Fully Refereed

Leach, P. J., Levine, P.H., Hamilton, J. A., Stumpf, B.L.,
"UIDs as Internal Names in a Distributed File System,"
in *Proceedings ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing*,
Ottawa, Ont., Aug. 18-20, 1982, pp. 34-41.

Michael B. Jones, Paul J. Leach, Richard P. Draves, and Joseph S. Barrera, III,
"Support for user-centric modular real-time resource management in the Rialto operating system,"
In *Proceedings of NOSSDAV '95*, April 1995.

Refereed

Rees, J., Levine, P. H., Mishkin, N., Leach, P. J.,
"An Extensible I/O System,"
in *Proceedings of the Usenix Association Summer Conference*, Atlanta, Ga., June 1986.

Dineen, T. H., Leach, P. J., Mishkin, N. W., Pato, J. N., Wyant, G. L.,
"The Network Computing Architecture and System: an Environment for Developing Distributed Applications,"
In *Proceedings of the Usenix Association Summer Conference*, June 1987.

Leach, Paul J., et. al.,
"A Conceptual Authorization Model for Web Services,"
In *Computer Systems: Theory, Technology, and Applications*, Springer-Verlag, New York, 2004.

Patents

5,511,197	Method and system for network marshalling of interface pointers for remote procedure calls
5,710,925	Method and system for aggregating objects
5,802,367	Method and system for transparently executing code using a surrogate process
5,812,844	Method and system for scheduling the execution of threads using optional time-specific scheduling constraints
5,968,121	Method and apparatus for representing and applying network topological data
5,991,306	Pull based, intelligent caching system and method for delivering data over a network

6,003,061 Method and system for scheduling the use of a computer system resource using a resource planner and a resource provider

6,108,715 Method and system for invoking remote procedure calls

6,275,496 Content provider for pull based intelligent caching system

6,282,561 Method and system for resource management with independent real-time applications on a common set of machines

6,298,373 Local service provider for pull based intelligent caching system

6,324,182 Pull based, intelligent caching system and method

6,374,253 System and method for generating hierarchical forward knowledge

6,401,211 System and method of user logon in combination with user authentication for network access

6,405,262 Efficient inter-process object and interface pinging

6,490,589 System and method for rewriting queries

6,823,369 Using state information in requests that are transmitted in a distributed network environment

6,892,230 Dynamic self-configuration for ad hoc peer networking using mark-up language formatted description messages

6,985,958 Messaging infrastructure for identity-centric data access

7,062,539 Using state information in a distributed environment

7,130,895 XML-based language description for controlled devices

7,136,859 Accessing heterogeneous data in a standardized manner

7,185,359 Authentication and authorization across autonomous network systems

7,251,822 System and methods providing enhanced security model

7,284,271 Authorizing a requesting entity to operate upon data structures

7,302,634 Schema-based services for identity-based data access

7,305,548 Using atomic messaging to increase the security of transferring data across a network

7,308,709 System and method for managing and authenticating services via service principal names

7,382,883 Deriving a symmetric key from an asymmetric key for file encryption or decryption

7,383,586 File system operation and digital rights management (DRM)

7,434,253 User mapping information extension for protocols

7,441,019 XML-based template language for devices and services

7,487,230 Dynamic self-configuration for AD HOC peer networking

7,543,333 Enhanced computer intrusion detection methods and systems

7,558,846 Dynamic self-configuration for ad hoc peer networking

7,571,438 Method and system for resource management with independent real-time applications on a common set of machines

7,602,756 Dynamic self-configuration for ad hoc peer networking

7,617,522 Authentication and authorization across autonomous network systems

7,644,275 Pass-thru for client authentication

7,664,724 Schema-based services for identity-based data access

7,752,431 Virtual distributed security system

7,752,442 Virtual distributed security system

7,757,275 One time password integration with Kerberos

7,757,281 Privilege restriction enforcement in a distributed system

7,779,265 Access control list inheritance thru object(s)

7,802,294 Controlling computer applications' access to data

7,809,938 Virtual distributed security system

7,810,153 Controlling execution of computer applications

7,882,539 Abstracting security policy from, and transforming to, native representations of access check mechanisms

7,900,257 Enhanced computer intrusion detection methods and systems

7,913,084 Policy driven, credential delegation for single sign on and secure access to network resources

7,971,230 System and methods providing enhanced security model

8,006,295 Domain ID service

8,117,666 File system operation and digital rights management (DRM)

8,132,246 Kerberos ticket virtualization for network load balancers

8,214,641 File access in multi-protocol environment

8,225,390 Licensing protected content to application sets

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