David Cheriton
Professor of Computer Science, Emeritus
Communication

CONTACT INFORMATION
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Bio
BIO
Cheriton's research includes the areas of high-performance distributed systems, and high-speed computer communication with a particular interest in protocol design.

He leads the Distributed Systems Group in the TRIAD project, focused on understanding and solving problems with the Internet architecture. He has also been teaching and writing about object-oriented programming, building on his experience with OOP in systems building.

ACADEMIC APPOINTMENTS
• Emeritus Faculty, Acad Council, Communication

HONORS AND AWARDS
• SigComm'03 Award, Association for Computing Machinery (2003)

PROFESSIONAL EDUCATION
• PhD, Waterloo (1978)

LINKS

Publications
PUBLICATIONS
• Efficient Correction of Anomalies in Snapshot Isolation Transactions ACM TRANSACTIONS ON ARCHITECTURE AND CODE OPTIMIZATION
  Litz, H., Dias, R. J., Cheriton, D. R.
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• Scalable Network-Layer Defense Against Internet Bandwidth-Flooding Attacks IEEE-ACM TRANSACTIONS ON NETWORKING
  Argyraki, K., Cheriton, D. R.
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• Active Internet Traffic Filtering: Real-time response to denial-of-service attacks 2005 USENIX Annual Technical Conference
  Argyraki, K., Cheriton, D. R.
Feedback based routing. *1st HotNets Workshop*
Zhu, D. P., Gritter, M., Cheriton, D. R.
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TCP-SMO: Extending TCP to support medium-scale multicast applications. *21st Annual Joint Conference of the IEEE-Computer-and-Communications-Societies*
Liang, S., Cheriton, D.
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An architecture for content routing support in the Internet. *3rd USENIX Symposium on Internet Technologies and Systems (USITS 01)*
Gritter, M., Cheriton, D. R.
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IP multicast channels: Express support for large-scale single-source applications. *ACM Conference on Applications, Technologies, Architectures, and Protocols for Computer Communications (SIGCOMM 99)*
Holbrook, H. W., Cheriton, D. R.
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DUDA, K. J., Cheriton, D. R.
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Scalable web caching of frequently updated objects using reliable multicast. *2nd USENIX Symposium on Internet Technologies and Systems (USITS 99)*
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Cheriton, D. R., Kutter, R. A.
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The synergy between non-blocking synchronization and operating system structure. *2nd Symposium on Operating Systems Design and Implementation (OSDI 96)*
Greenwald, M., CHERITON, D.
USENIX ASSOC. 1996: 123–136

Specializing object-oriented RPC for functionality and performance. *16th International Conference on Distributed Computing Systems*
ZELESKO, M. J., Cheriton, D. R.
IEEE COMPUTER SOC. 1996: 175–187

Using projection aggregations to support scalability in distributed simulation. *16th International Conference on Distributed Computing Systems*
Singhal, S. K., Cheriton, D. R.
IEEE COMPUTER SOC. 1996: 196–206

EXPLOITING POSITION HISTORY FOR EFFICIENT REMOTE RENDERING IN NETWORKED VIRTUAL-REALITY PRESENCE-TELEOPERATORS AND VIRTUAL ENVIROMENTS
Singhal, S. K., Cheriton, D. R.

CHIRON PARALLEL PROGRAM PERFORMANCE VISUALIZATION SYSTEM. *COMPUTER-AIDED DESIGN*
GOOSEN, H. A., Karlin, A. R., CHERITON, D., Polzin, D.
1994; 26 (12): 899-906

A CACHING MODEL OF OPERATING SYSTEM KERNEL FUNCTIONALITY. *1st USENIX Symposium on Operating Systems Design and Implementation (OSDI)*
Cheriton, D. R., DUDA, K. J.
USENIX ASSOC. 1994: 179–193

- **Restructuring a Parallel Simulation to Improve Cache Behavior in a Shared-Memory Multiprocessor - The Value of Distributed Synchronization** 7th Workshop on Parallel and Distributed Simulation (PADS '93)
  Cheriton, D. R., GOOSEN, H. A., Holbrook, H., Machanick, P.
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- **Application-Controlled Physical Memory Using External Page-Cache Management** SIGPLAN NOTICES
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- **Operating-Systems - A Vision of the Year 2000** COMPUTER
  Boykin, J., CHERITON, D.
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- **Paradigm - A Highly Scalable Shared-Memory Multicomputer Architecture** COMPUTER
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- **Blazenet - A Packet-Switched Wide-Area Network with Photonic Data Path** IEEE TRANSACTIONS ON COMMUNICATIONS
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- **Multicast Routing in Datagram Internetworks and Extended LANS** ACM TRANSACTIONS ON COMPUTER SYSTEMS
  DEERING, S. E., Cheriton, D. R.
  1990; 8 (2): 85-110

- **VMTP as The Transport Layer for High-Performance Distributed Systems** IEEE COMMUNICATIONS MAGAZINE
  Cheriton, D. R., Williamson, C. L.
  1989; 27 (6): 37-44

- **Decentralizing a Global Naming Service for Improved Performance and Fault Tolerance** ACM TRANSACTIONS ON COMPUTER SYSTEMS
  Cheriton, D. R., MANN, T. P.
  1989; 7 (2): 147-183

- **The V-Distributed System** COMMUNICATIONS OF THE ACM
  Cheriton, D. R.
  1988; 31 (3): 314-333

- **UIO - A Uniform I/O System Interface for Distributed Systems** ACM TRANSACTIONS ON COMPUTER SYSTEMS
  Cheriton, D. R.
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- **Request-Response and Multicast Interprocess Communication in the V-Kernel** LECTURE NOTES IN COMPUTER SCIENCE
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- **File Access Performance of Diskless Workstations** ACM TRANSACTIONS ON COMPUTER SYSTEMS
  Lazowska, E. D., Zahorjan, J., Cheriton, D. R., Zwaenepoel, W.
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- **Distributed Process Groups in the V-Kernel** ACM TRANSACTIONS ON COMPUTER SYSTEMS
  Cheriton, D. R., Zwaenepoel, W.
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- **Amaze - A Multiplayer Computer Game** IEEE SOFTWARE
  BERGLUND, E. J., Cheriton, D. R.
  1985; 2 (3): 30-39
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