

<u>Curriculum Vitae</u> August H. Ankum, Ph.D. Senior Vice-President QUANTITATIVE SOLUTIONS, INC

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I am an economist and consultant, specializing in public utility regulation. In this capacity, I have provided consulting services in the major telecommunications markets of the United States, such as New York, Texas, Illinois, Michigan, Tennessee, Georgia, and in a variety of smaller states. My consulting activities focus mostly on telecommunications regulation. Specifically, I work with large corporate clients, such as MCIWorldCom, AT&T, AT&T Wireless, and a variety of smaller state and federal regulatory agencies in various proceedings concerning the introduction of competition in telecommunications markets. Recently, these proceedings focus largely on the implementation of the pro-competition provisions of Telecommunications Act of 1996.

Professional experience:

My professional background includes work experiences in private industry and state government. I have worked for MCI Telecommunications Corporation (? MCI?) as a senior economist. At MCI, I provided expert witness testimony and conducted economic analyses for internal purposes. Prior to joining MCI in early 1995, I worked for Teleport Communications Group, Inc. (? TCG?), as a Manager in the Regulatory and External Affairs Division. In this capacity, I testified on behalf of TCG in proceedings concerning local exchange competition issues. From 1986 until early 1994, I was employed as an economist by the Public Utility Commission of Texas (? PUCT?) where I worked on a variety of electric power and telecommunications issues. During my last year at the PUCT I held the position of chief economist. Prior to joining the PUCT, I taught undergraduate courses in economics as an Assistant Instructor at the University of Texas from 1984 to 1986.

Education:

I received a Ph.D. in Economics from the University of Texas at Austin in 1992, an M.A. in Economics from the University of Texas at Austin in 1987, and a B.A. in Economics from Quincy College, Illinois, in 1982.



PROCEEDINGS IN WHICH DR. ANKUM HAS FILED EXPERT WITNESS TESTIMONY:

New York

Commission Investigation into Resale, Universal Service and Link and Port Pricing, New York Public Service Commission, Case Nos. 95-C-0657, 94-C-0095, and 91-C-1174, July 4, 1996. On behalf of MCI Telecommunications Corporation.

In the Matter of Proceeding on Motion of the Commission To Reexamine Reciprocal Compensation, New York Public Service Commission, Case 99-C-0529. Direct Testimony, July 1999. On Behalf Of Cablevision LightPath, Inc.

Proceeding on the Motion of the Commission To Examine New York Telephone Company's Rates for Unbundled Network Elements, New York Public Service Commission, Case 98-C-1357. Direct Testimony, October 1999. On behalf of Corecomm New York, Inc.

Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements, New York Public Service Commission Case 98-C-1357, Direct Testimony, June 2000, on behalf of MCIWorldCom.

New Jersey

Petition of Focal Communications Corporation of New Jersey For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic – New Jersey Board of Public Utilities, May 2000. On behalf of Focal Communications Corporation of New Jersey.

I/M/O the Board's Review of Unbundled Network Elements Rates, Terms and Conditions of Bell Atlantic-New Jersey, Inc. New Jersey Board of Public Utilities, Docket No. TO00060356. 2000. On behalf of WorldCom, Inc.

Delaware

Petition of Focal Communications Corporation of Pennsylvania For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic – Delaware, Inc. Delaware Public Service Commission, PSC Docket No. 00-025. Direct Testimony, May 2000. On behalf of Focal Communications Corporation of Pennsylvania.

Texas



Petition of The General Counsel for an Evidentiary Proceeding to Determine Market Dominance, PUC of Texas, Docket No. 7790, Direct Testimony, June 1988. On behalf of the Public Utility Commission of Texas.

Application of Southwestern Bell Telephone Company for Revisions to the Customer Specific Pricing Plan Tariff, PUC of Texas, Docket No. 8665, Direct Testimony, July 1989. On behalf of the Public Utility Commission of Texas.

Application of Southwestern Bell Telephone Company to Amend its Existing Customer Specific Pricing Plan Tariff: As it Relates to Local Exchange Access through Integrated Voice/Data Multiplexers, PUC of Texas, Docket No. 8478, Direct Testimony, August 1989. On behalf of the Public Utility Commission of Texas.

Application of Southwestern Bell Telephone Company to Provide Custom Service to Specific Customers, PUC of Texas, Docket No. 8672, Direct Testimony, September 1989. On behalf of the Public Utility Commission of Texas.

Inquiry of the General Counsel into the Reasonableness of the Rates and Services of Southwestern Bell Telephone Company, PUC of Texas, Docket No. 8585, Direct Testimony, November 1989. On behalf of the Public Utility Commission of Texas.

Southwestern Bell Telephone Company Application to Declare the Service Market for CO LAN Service to be Subject to Significant Competition, PUC of Texas, Docket No. 9301, Direct Testimony, June 1990. On behalf of the Public Utility Commission of Texas.

Petition of Southwestern Bell Telephone Company for Authority to Change Rates, PUC of Texas, Docket No. 10382, Direct Testimony, September 1991. On behalf of the Public Utility Commission of Texas.

Application of Southwestern Bell Telephone Company, GTE Southwest, Inc., and Contel of Texas, Inc. For Approval of Flat-rated Local Exchange Resale Tariffs Pursuant to PURA 1995 Section 3.2532, Public Utility Commission of Texas, Docket No. 14658, January 24, 1996. On behalf of Office of Public Utility Counsel of Texas. Application of Southwestern Bell Telephone Company, GTE Southwest, Inc., and Contel of Texas, Inc. For Interim Number Portability Pursuant to Section 3.455 of the Public Utility Regulatory Act, Public Utility Commission of Texas, Docket No. 14658, March 22, 1996. On behalf of Office of Public Utility Counsel of Texas.

Application of AT&T Communications for Compulsory Arbitration to Establish an Interconnection Agreement Between AT&T and Southwestern Bell Telephone Company, and Petition of MCI for Arbitration under the FTA96, Public Utility Commission of Texas, Consl. Docket Nos. 16226 and 16285. September 15, 1997. On behalf of AT&T and MCI.

Proceeding to examine reciprocal compensation pursuant to section 252 of the Federal Telecommunications of 1996, Public Utility Commission of Texas, Docket No. 21982. May 2000. On behalf of Taylor Communications.

Iowa

US West Communications, Inc., Iowa Department of Commerce – Utilities Board, Docket No: RPU – 00 – 01. Direct Testimony, July 2000. On behalf of McLeodUSA.

Illinois

Adoption of Rules on Line-Side Interconnection and Reciprocal Interconnection, Illinois Commerce Commission, Docket No. 94-0048. September 30, 1994. On behalf of Teleport Communications Group, Inc.

Proposed Introduction of a Trial of Ameritech's Customer First Plan in Illinois, Illinois Commerce Commission, Docket No. 94-0096. September 30, 1994. On behalf of Teleport Communications Group, Inc.

Addendum to Proposed Introduction of a Trial of Ameritech's Customer First Plan in Illinois, Illinois Commerce Commission, Docket No. 94-0117. September 30, 1994. On behalf of Teleport Communications Group, Inc.

AT&T's Petition for an Investigation and Order Establishing Conditions Necessary to Permit Effective Exchange Competition to the Extent Feasible in Areas Served by Illinois Bell Telephone Company, Illinois Commerce Commission, Docket No. 94-0146. September 30, 1994. On behalf of Teleport Communications Group, Inc.

Proposed Reclassification of Bands B and C Business Usage and Business Operator Assistance/Credit Surcharges to Competitive Status, Illinois Commerce Commission, Docket No. 95-



0315, May 19, 1995. On behalf of MCI Telecommunications Corporation.

Investigation Into Amending the Physical Collocation Requirements of 83 Ill. Adm. Code 790, Illinois Commerce Commission, Docket 94-480, July 13, 1995. On behalf of MCI Telecommunications Corporation.

Petition for a Total Local Exchange Wholesale Tariff from Illinois Bell Telephone Company d/b/a Ameritech Illinois and Central Telephone Company Pursuant to Section 13-505.5 of the Illinois Public Utilities Act, Illinois Commerce Commission, Docket No. 95-0458, December 1995. On behalf of MCI Telecommunications Corporation.

Citation to Investigate Illinois Bell Telephone Company?s Rates, Rules and regulations For its Unbundled Network Component Elements, Local Transport Facilities, and End office Integration Services, Illinois Commerce Commission, Docket No. 95-0296, January 4, 1996. On behalf of MCI Telecommunications Corporation.

In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois, Illinois Commerce Commission, Docket No. 96-AB-006, October, 1996. On behalf of MCI Telecommunications Corporation.

In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Central Telephone Company of Illinois (? Sprint?), Illinois Commerce Commission, Docket No. 96-AB-007, January, 1997. On behalf of MCI Telecommunications Corporation.

Investigation into forward looking cost studies and rates of Ameritech Illinois for interconnection, network elements, transport and termination of traffic. Illinois Commerce Commission, Docket No. 96-0486, February, 1997. On behalf of MCI Telecommunications Corporation.

Phase II of Ameritech Illinois TELRIC proceeding. Illinois Commerce Commission Docket No. 98-0396, May 2000. On behalf of MCIWorldCom.

Illinois Commerce Commission On its Motion vs Illinois Bell Telephone Company Investigation into Tariff Providing Unbundled Local Switching with Shared Transport, Illinois Commerce Commission, Docket No. 00- 0700. October 2001. On behalf of AT&T Communications of Illinois, Inc. and WorldCom, Inc.

Massachusetts

NYNEX/MCI Arbitration, Common Wealth of Massachusetts, Department of Public Utilities, D.P.U.



96-83, October 1996. On behalf of MCI Telecommunications Corporation.

Investigation into Pricing based on TELRIC for Unbundled Network Elements and Combinations of Unbundled Networks Elements and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services. Massachusetts Department of Energy and Transportation, Docket 01-20. On behalf Allegiance, Network Plus, Inc., El Paso Networks, LLC, and Covad Communications Company. July 2001.

Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Regulatory Plan to succeed Price Cap Regulation for Verizon New England, Inc. d/b/a Verizon Massachusetts' intrastate retail telecommunications services in the Commonwealth of Massachusetts. Massachusetts Department of Energy and Transportation, Docket 01-03. On behalf of Network Plus, Inc., August 2001.

New Mexico

Brooks Fiber Communications of New Mexico, Inc. Petition for Arbitration, New Mexico State Corporation Commission, Docket No. 96-307-TC, December, 1996. On behalf of Brooks Fiber Communications of New Mexico, Inc.

Michigan

In the Matter of the Application of City Signal, Inc. for an Order Establishing and Approving Interconnection Arrangements with Michigan Bell Telephone Company, Michigan Public Service Commission, Case No. U-10647, October 12, 1994. On behalf of Teleport Communications Group, Inc.

In the Matter, on the Commission?s Own Motion, to Establish Permanent Interconnection Arrangements Between Basic Local Exchange Providers, Michigan Public Service Commission, Case No. U-10860, July 24, 1995. On behalf of MCI Telecommunications Corporation.

In the Matter, on the Commission?s Own Motion, to consider the total service long run incremental costs and to determine the prices for unbundled network elements, interconnection services, resold services, and basic local exchange services for Ameritech Michigan, Michigan Public Service Commission, Case No. U-11280, March 31, 1997. On behalf of MCI Telecommunications Corporation.

In the matter of the application under Section 310(2) and 204, and the complaint under Section 205(2) and 203, of MCI Telecommunications Corporation against AMERITECH requesting a reduction in intrastate switched access charges, Case No. U-11366. April, 1997. On behalf of MCI



Telecommunications Corporation.

Ohio

In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Ameritech Ohio, The Public Utilities Commission of Ohio, Case No. 96-888-TP-ARB, October, 1996. On behalf of MCI Telecommunications Corporation.

In the matter of the review of Ameritech Ohio?s economic costs for interconnection, unbundled network elements, and reciprocal compensation for transport and termination of local telecommunications traffic, The Public Utilities Commission of Ohio, Case No. 96-922-TP-UNC, Jan 17, 1997. On behalf of MCI Telecommunications Corporation.

In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements, and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic. Case No. 96-922-TP-UNC and In the Matter of the Application of Ameritech Ohio for Approval of Carrier to Carrier Tariff. Case No. 00-1368-TP-ATA. Ohio Public Utilities Commission. Direct Testimony, October 2000. On behalf of MCIWorldCom and ATT of the Central Region.

Indiana

In the matter of the Petition of MCI Telecommunications Corporation for the Commission to Modify its Existing Certificate of Public Convenience and Necessity and to Authorize the Petitioner to Provide certain Centrex-like Intra-Exchange Services in the Indianapolis LATA Pursuant to I.C. 8-1-2-88, and to Decline the Exercise in Part of its Jurisdiction over Petitioner?s Provision of such Service, Pursuant to I.C. 8-1-2.6., Indiana Regulatory Commission, Cause No. 39948, March 20, 1995. On behalf of MCI Telecommunications Corporation.

In the matter of the Petition of Indiana Bell Telephone company, Inc. For Authorization to Apply a Customer Specific Offering Tariff to Provide the Business Exchange Services Portion of Centrex and PBX Trunking Services and for the Commission to Decline to Exercise in Part Jurisdiction over the Petitioner?s Provision of such Services, Pursuant to I.C. 8-1-2.6, Indiana regulatory Commission, Cause No. 40178, October 1995. On behalf of MCI Telecommunications Corporation.

MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Indiana Bell Telephone Company d/b/a Ameritech Indiana, Indiana Public Utility Regulatory Commission, Cause No. 40603-INT-01, October 1996. On behalf of MCI Telecommunications Corporation.



In the matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana?s Rates for Interconnection Service, Unbundled Elements and Transport and Termination under the Telecommunications Act of 1996 and Related Indiana Statutes, Indiana Public Utility Regulatory Commission, Cause No. 40611. April 18, 1997. On behalf of MCI Telecommunications Corporation.

In the Matter of the Commission Investigation and Generic Proceeding on GTE?s Rates for Interconnection, Service, Unbundled Elements, and Transport under the FTA 96 and related Indiana Statutes, Indiana Public Utility Regulatory Commission, Cause No. 40618. October 10, 1997. On behalf of MCI Telecommunication Corporation.

In the matter of the Commission Investigation and Generic proceeding on the Ameritech Indiana's rates for Interconnection, Unbundled Elements, and Transport and Termination Under the Telecommunications Act of 1996 and Related Indiana Statutes, Indiana Utility Regulatory Commission, Cause No. 40611-S1. October 2001. On behalf of WorldCom, Inc., AT&T Communications of Indiana, G.P.

Rhode Island

Comprehensive Review of Intrastate Telecommunications Competition, State of Rhode Island and Providence Plantations Public Utilities Commission, Docket No. 2252, November, 1995. On behalf of MCI Telecommunications Corporation.

Vermont

Investigation into NET?s tariff filing re: Open Network Architecture, including the Unbundling of NET?s Network, Expanded Interconnection, and Intelligent Networks, Vermont Public Service Board, Docket No. 5713, June 8, 1995. On behalf of MCI Telecommunications Corporation.

Wisconsin

Investigation of the Appropriate Standards to Promote Effective Competition in the Local Exchange Telecommunications Market in Wisconsin, Public Service Commission of Wisconsin, Cause No. 05-TI-138, November, 1995. On behalf of MCI Telecommunications Corporation.

Matters relating to the satisfaction of conditions for offering interLATA services (Wisconsin Bell, Inc. d/b/a Ameritech Wisconsin) Wisconsin Public Service Commission, 670-TI-120, March 25, 1997. On behalf of MCI Telecommunications Corporation.



In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Wisconsin Bell, Inc. d/b/a Ameritech Wisconsin, Wisconsin Public Service Commission, Docket Nos. 6720-MA-104 and 3258-MA-101. On behalf of MCI Telecommunications Corporation.

Investigation Into The Establishment of Cost-Related Zones For Unbundled Network Elements, Docket No. 05-TI-349. Rebuttal Testimony, September 2000. On behalf of AT&T Communications of Wisconsin, McLEODUSA Telecommunications Services, Inc., TDS MetroCom, Inc., and Time Warner Telecom.

Pennsylvania

In Re: Formal Investigation to Examine Updated Universal Service Principles and Policies for telecommunications Services in the Commonwealth Interlocutory order, Initiation of Oral Hearing Phase, Pennsylvania Public Utility Commission, Docket No. I-00940035, February 28, 1996. On behalf of MCI Telecommunications Corporation.

Structural Separation of Verizon, Pennsylvania Public Utility Commission - Docket No. M-0001352. Direct Testimony, October, 2000. On behalf of MCI WorldCom.

Georgia

AT&T Petition for the Commission to Establish Resale Rules, Rates and terms and Conditions and the Initial Unbundling of Services, Georgia Public Service Commission, Docket No. 6352-U, March 22, 1996.On behalf of MCI Telecommunications Corporation.

Tennessee

Avoidable Costs of Providing Bundled Services for Resale by Local Exchange Telephone Companies, Tennessee Public Service Commission, Docket No. 96-00067, May 31, 1996. On behalf of MCI Telecommunications Corporation.

Commonwealth of Puerto Rico

Petition for Arbitration Pursuant to 47 U.S.C. & (b) and the Puerto Rico Telecommunications Act of 1996, regarding Interconnection Rates Terms and Conditions with Puerto Rico Telephone Company, Puerto Rico Telecommunications Regulatory Board, Docket No. 97-0034-AR, April 15, 1997. On

behalf of Cellular Communications of Puerto Rico, Inc.