PENNINGTON & HABEN

A PROFESSIONAL ASSOCIATION

ATTORNEYS AT LAW

BARBARA D. AUGER
WILLIAM W. BLUE
D. ANDREW BYRNE †
BRAM D. E. CANTER
ROBERT CINTRON, JR.
ROBERT S. COHEN
CHARLES L. COOPER, JR.
BRUCE CULPEPPER
SONYA KROUSKOP DAWS
PETER M. DUNBAR
DAVISSON F. DUNLAP, JR.
JOHN FRENCH
RALPH H. HABEN, JR.

SHARON N. JACOBS
MICHAEL A. KLINER
CHARLES W. MURPHY
JOHN C. PELHAM
CARL R. PENNINGTON, JR., P.A.
RONALD R. RICHMOND
C. EDWIN RUDE, JR.
DARREN A. SCHWARTZ
NANCY BLACK STEWART
CYNTHIA S. TUNNICLIFF
WILLIAM E. WHITNEY
BEN H. WILKINSON
CATHI C. WILKINSON

† Also Admitted in Tennessee

OF COUNSEL
R. STUART HUFF, P.A.
Coral Gables, Florida

CHRISTOPHER W. KANAGA
(Admitted in Massachusetts & Colorado Only)

WILLIAM VANDERCREEK
(Admitted in Texas & Iowa Only)

SPECIAL CONSULTANTS
JOHN F. BLACK, III*
SCOTT MADDOX*
RANDY MILLER*
DAVID L. SWAFFORD*

*Not A Member Of The Florida Bar

215 SOUTH MONROE STREET
2ND FLOOR
TALLAHASSEE, FLORIDA 32301
(904) 222-3533
FAX (904) 222-2126

1002 WEST 23RD STREET, SUITE 350
PANAMA CITY, FLORIDA 32405
(904) 769-7864

REPLY TO:
P.O. BOX 10095
TALLAHASSEE, FL 32302-2095

September 1, 1995

Ms. Blanca Bayo, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

via Hand Delivery

Re: Investigation into Temporary Local Telephone Number Portability Solution to Implement Competition in Local Exchange Telephone Markets; Docket No. 950737-TP

Dear Ms. Bayo:

Enclosed for filing please find an original and fifteen copies of the Direct Testimony of Dan G. Engleman on behalf of Time Warner ~~AxS~~ of Florida, L.P. and Digital Media Partners for the above-referenced docket.

You will also find enclosed a copy of this letter and a diskette containing the same information. Please date-stamp the copy of the letter to indicate that the original was filed and return to me.

If you have any questions regarding this matter, please feel free to contact me. Thank you for your assistance in processing this filing.

Respectfully,

PENNINGTON & HABEN, P.A.

Peter M. Dunbar

Peter M. Dunbar

PMD/tmz
Enclosures

cc: All parties of record (w/ enclosure)

CERTIFICATE OF SERVICE
DOCKET NO. 950737-TP

I HEREBY CERTIFY that a true and correct copy of the Direct Testimony of Dan G. Engleman on behalf of Time Warner AxS of Florida, L.P. and Digital Media Partners has been served by Federal Express or Hand Delivery on this 1st day of September, 1995, to the following parties of record:

Ms. Jill Butler
Florida Regulatory Director
Digital Media Partners
2773 Red Maple Ridge
Tallahassee, FL 32301

Anthony P. Gillman
Kimberly Caswell
GTE Florida Incorporated
Post Office Box 110, FLTC0007
Tampa, FL 33601-0110

Laura L. Wilson, Esq.
Florida Cable Telecommunications Association, Inc.
310 North Monroe Street
Tallahassee, FL 32301

Monica M. Barone, Staff Counsel
Florida Public Service Comm.
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Floyd R. Self, Esq.
Messer, Vickers, Caparello, Madsen, Goldman & Metz, P.A.
Post Office Box 1876
Tallahassee, FL 33401

William H. Higgins, Esq.
Cellular One
Suite 900
250 S. Australian Avenue
West Palm Beach, FL 33401

C. Everett Boyd, Jr.
Ervin, Varn, Jacobs, Odom & Ervin
305 S. Gadsden Street
Post Office Drawer 1170
Tallahassee, FL 32302

Tony H. Key, Director
State Regulatory-South Sprint
3100 Cumberland Circle
Atlanta, GA 30339

Timothy Devine
MFS Communications Company, Inc.
6 Century Drive, Suite 300
Parsippany, NJ 07054

Richard M. Rindler
James C. Falvey
Swindler & Berlin, Chartered
3000 K Street, N.W., Suite 300
Washington, D.C. 20007

Michael J. Henry
MCI Telecommunications Corp.
780 Johnson Ferry Road
Suite 700
Atlanta, GA 30342

Michael W. Tye, Esq.
106 East College Avenue
Suite 1410
Tallahassee, FL 32301

F. Ben Poag
Sprint/United Telephone
Company of Florida
Post Office Box 2214
Tallahassee, FL 32316

Angela B. Green
Florida Public
Telecommunications Assn., Inc.
125 S. Gadsden Street
Suite 200
Tallahassee, FL 32301

Marsha E. Rule, Esq.
Wiggins & Villacorta, P.A.
Post Office Drawer 1657
501 East Tennessee Street
Tallahassee, FL 32302

Richard D. Melson
Hopping, Green, Sams & Smith
Post Office Box 6526
123 South Calhoun Street
Tallahassee, FL 32314

Robin D. Dunson, Esq.
1200 Peachtree St., NE
Promenade I, Room 4038
Atlanta, GA 30309

Lee L. Willis
J. Jeffry Wahlen
Macfarlane, Ausley, Ferguson
and McMullen
Post Office Box 391
Tallahassee, FL 32302

Patrick K. Wiggins
Wiggins & Villacorta, P.A.
Post Office Drawer 1657
501 East Tennessee Street
Tallahassee, FL 32302

Peter M. Dunbar

PETER M. DUNBAR, ESQ.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 950737-TP

DIRECT TESTIMONY OF

DANNY G. ENGLEMAN

ON BEHALF OF TIME WARNER AxS OF FLORIDA, L.P.

AND DIGITAL MEDIA PARTNERS

Q. **What is your name and business address?**

A. Danny G. Engleman, 160 Inverness Drive West, Englewood, Colorado 80112

Q. **By whom are you employed and in what capacity?**

A. I am employed by Time Warner Communications as the Director of Switch Technologies.

Q. **What are your professional and educational qualifications?**

A. Attached to my testimony as Exhibit DGE-1 is a complete list of my qualifications. I have had experience in a number of different aspects of telecommunications over the past sixteen years, first with the Bell System, now with Time Warner Communications. For example, I have undertaken network modernization studies for telephone central offices, interoffice facilities and operator services. In addition, I have been involved in the design of key service architectures such as the

information gateway, broadband integrated services digital network (ISDN), personal communications services (PCS) and switched multi-megabit data services (SMDS). In addition, I have taught various courses as a manager of instruction/development at Bell Communications Research (Bellcore), including telephony engineering, economics, financial analysis, wire center analysis, and new types of network planning, plus a set of courses in planning, design, and operations of telephone systems. In my current position with Time Warner Communications, my responsibilities include the development of switched service architectures and product development. I was instrumental in working through the provision of local number portability in Rochester, New York. I am currently a member of the Industry Numbering Committee (INC), which is a private industry group working on developing a long term industry standard for number portability.

Q. **Have you testified before the Florida Public Service Commission before?**

A. No.

Q. **Have you ever testified before any other public service commission before?**

A. Yes, I filed testimony before the Ohio, Tennessee and Hawaii Commissions to provide evidence of Time Warner's technical capabilities in obtaining our certification in those states.

Q. **What is the purpose of your testimony?**

A. The purpose of my testimony is to provide technical information to serve as a contextual reference for the Commission's decisions regarding prices, terms, and conditions for Remote Call Forwarding, which has been stipulated by the parties as a temporary number portability mechanism. I will also recommend an appropriate pricing structure.

Q. **What is service provider number portability?**

A. Service provider number portability enables customers to change their local service provider without changing their telephone number.

Q. **Why is service number portability so important?**

A. It is generally accepted that service number portability is critical to the development of competition. This is because residential and business customers alike view changing their telephone number as a significant inconvenience.

Changing telephone numbers can also represent a customer expense.

Q. **What have the parties agreed will be offered on January 1, 1996 as a temporary number portability mechanism.**

A. The parties have agreed that Remote Call Forwarding (RCF) will be offered. Some ALECs are interested in using Flexible DID, but the LECs say there are still technical issues relating to ALECs using Flexible DID for number portability, so the parties have agreed to continue to negotiate on Flexible DID.

Q. **How does Remote Call Forwarding work?**

A. Exhibit DGE-2 is a schematic of how RCF works for various scenarios. With RCF, a call to the old telephone number is first sent to the end office switch of the former local service provider. At the switch of the former local service provider, a physical piece of office equipment is required, which can be hooked up to multiple interoffice paths (up to 99) back through the interoffice network, through the LEC tandem, to the switch of the new local service provider.

Q. **What are the advantages and disadvantages of Remote Call Forwarding?**

The advantages of Remote Call Forwarding are:

1. It can be offered today in all switches that are stored program control switches.
2. Only one translation change per path is required.
3. Screening List CLASS features in customer's new central office still works.
4. RCF does not require the addition of extra or special inter-office trunks if call volume is low.
5. RCF supports the use of SS7 signaling.
6. RCF can be applied on a line-by-line basis.

The disadvantages of RCF are:

1. There is a call set-up delay of 2 to 3 seconds.
2. The actual network number (the ported number) is not known to customers, creating confusion when calls are placed from this number to subscribers of Caller Identification. The number displayed at the far end is not the directory number, but is the ported number.
3. RCF requires the use of two number assignments.

4. The engineered capability of a given switch may pose a problem in regards to the number of call forwards the switch can support at any one time. The significance of this potential limitation depends on how many customers are assigned this option.

5. Some types of calls (e.g., interLATA calls terminating through the access tandem, or local calls from the ALEC switch to the directory number which are then routed back over the same trunk) may require extra trunks, depending on call volume.

6. Administration is required to insure the appropriate RCF changes are made in the affected office when a customer moves to a new local service provider. Disconnecting numbers also have to be tracked.

7. RCF for two lines is necessary to enable call waiting for the ported customer.

8. The incumbent LEC remains in the revenue stream for terminating access revenues. This is because a call coming through the LEC network from an IXC loses its identity as a toll call once it is ported.

9. CLASS features Automatic Recall and Automatic Call Back are disabled following a call to the ported number.

10. The Calling Party Number (CgPN) field on which CLASS features are based when the ported customer originates a call will not show the ported number and Caller ID and features that screen on Caller ID will fail. This is similar to disadvantage #2.

11. Second number use is inconsistent with a long term database solution.

As you can see, RCF is not an ideal solution; it is only an available temporary mechanism. The disadvantages to the ALECs of utilizing RCF, both in additional administrative actions and in lost potential revenues, are numerous. It is only because a temporary number portability mechanism is so important to our ability to enter the market that Time Warner is willing to tolerate these short comings.

Q. **What costs are associated with providing remote call forwarding?**

A. The costs include any additional load on the LEC switch, which will be switching calls it would not otherwise; the recurring capital cost of the port,

which will vary by central office type; and the cost of transport, which will add small increments of traffic to the LEC trunks between the end office and tandem switches. Since this traffic will not be over dedicated facilities, but mixed in with all other traffic on digital or fiber optic trunks, the incremental cost will be slight. The incumbent LEC should quantify these costs explicitly.

Nonrecurring costs include the labor time to receive and process a service order, and transmit this information to the switch translation employee, who then writes the translation. Also, the labor involved in physically putting up the port (one per ported number) should be included.

Q. **Does RCF only use one transmission path for each ported number?**

A. Not in all cases. For example, if a customer purchases call waiting, for some small percentage of the time, that customer will need two paths to hold one call while the other is also in progress. Additionally, with a hunt group, normally only the first number of the group is published, so this number would be the only one ported. However, with multiple lines in the hunt group, more than one

call could come in at the same time, using multiple interoffice trunks at one time.

Q. **How should the use of interoffice LEC trunks be taken into account in setting the price for RCF?**

A. The LEC and ALEC will negotiate sufficient interoffice capacity to cover the needs of all numbers ported from a given LEC central office. At any one point in time, the actual number of paths being used will actually be less than the number of numbers being ported from a given central office. However, we do recognize that the LEC incurs additional costs for having the availability of additional paths. The basic flat monthly charge for number portability should include two paths, with the ability to order additional paths at a reduced rate.

Q. **How should the costs of remote call forwarding be recovered?**

A. The recurring cost should be recovered through a flat rate recurring charge per ported number, which includes two paths. Additional paths should also be available at a reduced flat rate charge. The nonrecurring costs should be recovered by the LEC through a flat rate charge per order billed to the ALEC at the LEC's direct cost, and should include

any economies the LEC receives by dealing with the ALEC rather than an end user, and economies of scale.

Q. **What do you believe is a reasonable price for Remote Call Forwarding?**

A. Time Warner believes that for local competition to develop the price for RCF should be as close to cost as possible. A reasonable price from the LECs for Remote Call Forwarding is $1.00 per ported number (including two paths), $.50 per additional path, and a nonrecurring charge of $10.00 per order.

Time Warner intends to compete in the residential market as well as the business market. The price it must pay the LEC for number portability, and other essential services such as collocation and interconnection, affects the extent to which Time Warner can compete with the LEC's prices, which are quite low in Florida. If the prices for these inputs are high, Time Warner will not be able to provide service. RCF charges of $1.00 per number (including two paths), $.50 for each additional path, and $10.00 nonrecurring per order will allow Time Warner to operate in Florida.

Time Warner believes that ALECs should charge the same prices back to the LEC for the similar type of number portability.

Q. **Does this conclude your testimony?**

A. Yes, it does.

DANNY G. ENGLEMAN
9205 South Sand Hill Street Highlands Ranch, CO 80126
(303) 470-7736 (home) (303) 799-3302 (work)

Professional Experience

I am currently the Director of Switch Technologies at Time Warner Communications. I have held a number of positions over the years including Wire Center Planning, Interoffice Facilities Planning, Instructor/Developer at Bellcore TEC, and Advanced Network Architect at U S West Advanced Technologies.

1993 to Present

Director - Switch Technology - Time Warner Communications
In this capacity I am responsible for the development of switched services architectures and product development for Time Warner Communications. This includes fundamental planning for switched networks in TW Cable divisions and the development and recommendations for the inclusion of new switching technologies. I also have responsibility for the development and deployment of signaling networks (such as CCS7) to support switched services.

1987-1993

Member Technical Staff - Network Architect - U S WEST
In this position, I was:
- responsible for negotiating work programs and budgets with Bellcore for Broadband networks, Information Gateway, and PCS,
- involved in the definition of key service architectures such as the Information Gateway, SMDS, Broadband ISDN, and Personal Communications Services,
- involved in the development of an implementation strategy for a SONET-based network,
- AT technical lead in the development of an implementation strategy for a SONET-based network,
- responsible for budgets, headcount allocation, technical evaluations, detailed interactions with clients at all levels of management,
- responsible for presentations dealing with the Network of the Future to internal U S WEST people at all levels, officers of US companies external to U S WEST, and representatives from foreign companies/countries,
- responsible for the development of the PCN architecture used in the Unitel proposal for a license in Britain.

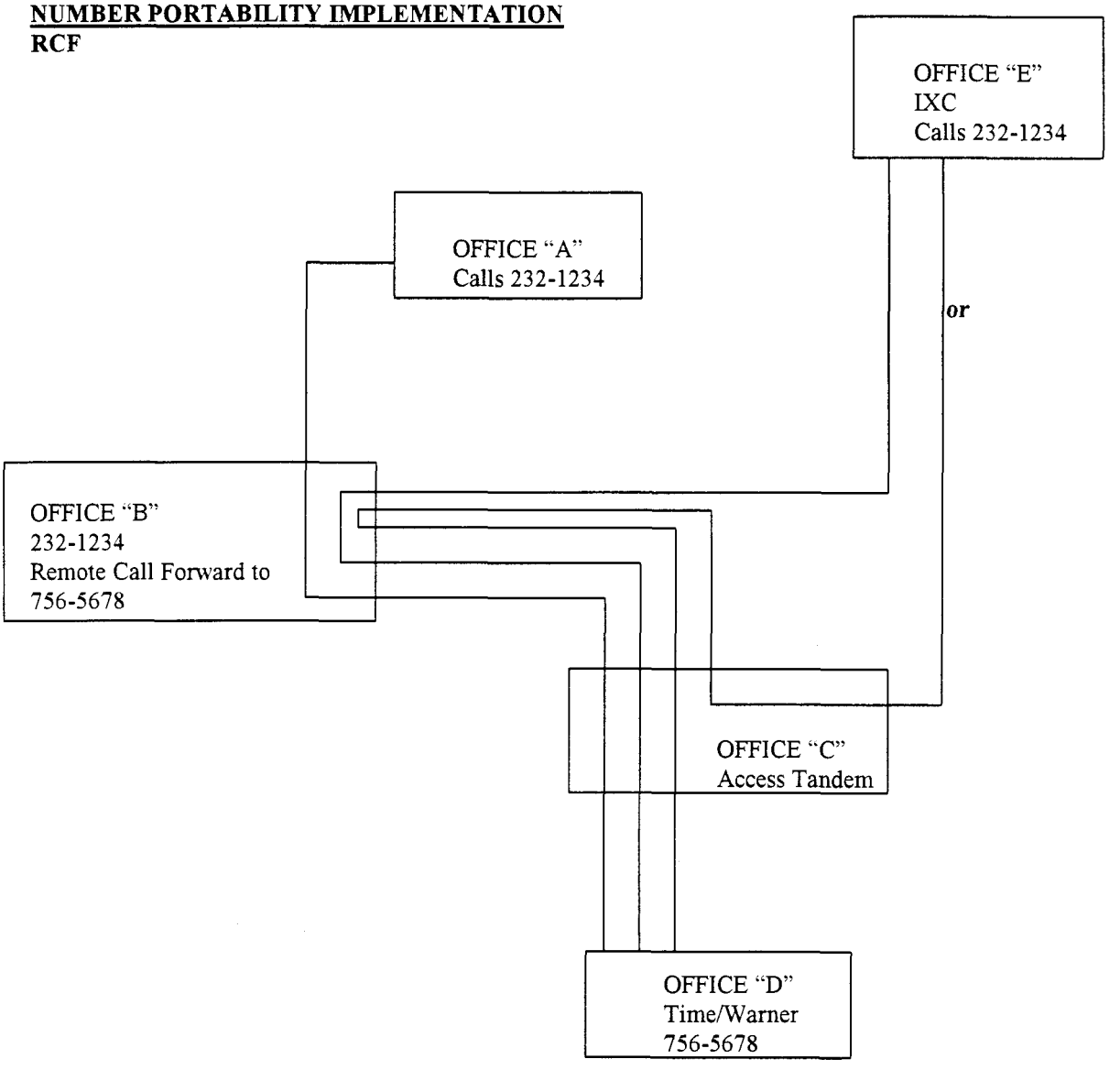
1984 - 1987

Manager, Instruction/Development - Bellcore
Bellcore Technical Education Center Lisle, Illinois

In this position, I developed and taught a number of courses to all levels of management dealing with Network Planning and Economic Evaluation.

1983 - 1984	**Staff Specialist - Network Planning, Denver, Colorado - Mountain Bell**
1979 - 1983	**Assistant Staff Manager - Network Planning, Cheyenne, Wyoming - Mountain Bell** In these positions, I performed network modernization studies dealing with Central Offices, Interoffice Facilities, and Operator Services.
Education	B.S. in Finance from the University of Wyoming, Laramie, Wyoming, 1979

NUMBER PORTABILITY IMPLEMENTATION
RCF



CALL SCENARIOS

1. Office "A" calls 232-1234.
   NXX 232 in office "A" is routed to Office "B". Office "B" remote call forwards 232-1234 to 756-5678.
   NXX 756 in Office "B" is routed to Office "C". Office "C" routes NXX 756 to Office "D".
2. An end office outside the LATA is calling 716-232-1234 using an Inter-exchange Carrier, Office "E".
   Office "E" routes the call to Office "B" over direct trunks. Office "B" RCF'ed the call to Office "C"
   which sends the call to Office "D". or...
3. An end office outside the LATA is calling 716-232-1234 using an Inter-exchange Carrier, Office "E".
   Office "E" route the call to the tandem Office "C". Office "C" send the call to Office "B". Office "B"
   RCFs the call back to Office "C". Office "C" sends to call to Office "D".
4. Office "D" calls 232-1234.
   NXX 232 in Office "D" is send to Office "C". Office "C" route the call to Office "B".
   The RCF in Office "B" sends the call back to Office "C".
   Office "C" sends the call back to Office "D".