

Exhibit No.:
Issues: Telephone Specific – Other Telephone Issues
Witness: Timothy E. Brown
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Sponsoring Party: Southwestern Bell Telephone, L.P.,
d/b/a SBC Missouri
Case No.: TC-2002-190

SOUTHWESTERN BELL TELEPHONE COMPANY

CASE NO. TC-2002-190

REBUTTAL TESTIMONY

OF

TIMOTHY E. BROWN

Oklahoma City, Oklahoma
February 7, 2003

CASE NO. TC-2002-190

REBUTTAL TESTIMONY OF TIMOTHY E. BROWN

1

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Timothy E. Brown and my business address is 800 N. Harvey, Room
4 331, Oklahoma City, Oklahoma 73102.

5

6 **Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?**

7 A. I am employed by SBC Southwest, as Manager-Analyst/Corporate Finance.

8

9 **Q. HOW LONG HAVE YOU WORKED FOR SBC?**

10 A. I have worked for SBC for over twenty-six years. My titles have included; Operator,
11 Records Clerk, Senior Records Clerk, Analyst and Manager-Analyst. I have been in
12 my present position for almost three years.

13

14 **Q. WHAT ARE YOUR RESPONSIBILITIES IN THIS POSITION?**

15 A. I analyze call detail records and summaries for the purposes of network assurance and
16 dispute resolution.

17 **Q. HAVE YOU PREVIOUSLY FILED TESTIMONY AND/OR APPEARED AS A**
18 **WITNESS BEFORE ANY COMMISSION?**

19 A. No.

20

21 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

1 A. The purpose of my testimony is to explain how we gathered additional call-related
2 information on the September 12, 2002 calls that terminated to Mid Missouri
3 Telephone Company ("Mid-Missouri"). We captured this data using the Agilent
4 Technologies (formerly Hewlett Packard) Business Intelligence AcceSS7 system (the
5 "BI System").

6

7 **Q. HOW LONG HAVE YOU WORKED WITH SS7 DATA FROM THE BI**
8 **PLATFORM?**

9 A. I started analyzing data from the BI System in October of 1999.

10

11 **Q. HOW DOES SBC USE THE BI SYSTEM ?**

12 A. SBC uses the BI System as a tool to monitor the network and collect call details for
13 analysis. This analysis is used by SBC for multiple purposes:

- 14 • Forecasting the need for more trunks based on SS7 measured usage.
- 15 • SBC Corporate Security – tracing call paths.
- 16 • Evaluation of CPN delivery.
- 17 • Investigation of miss-routed calls.
- 18 • Study of calls transiting the SBC network.
- 19 • Dispute resolution.
- 20 • Network fraud investigation.

21

22 **Q. HOW IS THE COLLECTION PROCESS ACCOMPLISHED?**

1 A. The BI System collects Signaling System 7 (“SS7”) network information at each SBC
2 Southwest Signal Transfer Point (“STP”) and from all monitored links in our
3 network. The BI System passes SS7 information to the CDR Builder Application to
4 build call detail records (“CDRs”). These CDRs are transferred to a file server over a
5 wide area network
6

7 **Q. WHAT HAPPENS TO THE CALL DETAIL RECORDS ON THE FILE**
8 **SERVER?**

9 A. The data management component (“DMC”) loads the CDR files into an Oracle
10 database. BI also correlates the various CDR legs captured in the five-state SBC
11 Southwest region during the load process. Call correlation identifies all individual
12 CDRs that are the same call and assigns the same correlation.
13

14 **Q. HOW IS THE BI SYSTEM USED TO STUDY TRAFFIC?**

15 A. Since the BI System examines numerous parameters throughout the network and
16 collects vast amounts of data, it is necessary to first define the parameters that will be
17 useful, otherwise, the data collected would be unmanageable. Once the parameters
18 are defined, the system may be queried to retrieve the desired information.
19

20 **Q. HOW IS THE BI DATA OBTAINED FOR A STUDY?**

21 A. The BI System loads and processes CDRs in a twenty-four hour period. Once the
22 data is in the Oracle table it may be queried to retrieve a sub-set of the approximately
23 250 million individual CDRs available for that period. Due to the enormous volume

1 of information continually being processed by and the storage capacity of this system,
2 CDRs are only stored for a limited period.

3

4 **Q. WHAT PARAMETERS WERE PULLED FOR THE STUDY OF THE**
5 **DISPUTED SEPTEMBER 12, 2002 CALLS IN THIS CASE?**

6 A. We used multiple criteria to limit the data extracted from the BI database.

7 First, we had the system focus on the final CDR leg between the SBC Missouri
8 tandem and the Mid-Missouri tandem. We did this by specifying point code
9 information for the SBC Missouri tandem (point code 249.145.102) and the Mid-
10 Missouri tandem (point code 5.3.204).

11

12 Next, we had the BI System pull data fields that corresponded to the data Mid-
13 Missouri provided for the disputed calls from their terminating records. Specifically,
14 we pulled from BI fields that matched the “from #” telephone number (originating
15 NPA, NXX and line); the “to #” telephone number (terminating NPA, NXX and line);
16 date (of call); time (of call); and seconds (of call duration). I would note that after
17 pulling this data from BI, it became apparent that the “time” field used by Mid-
18 Missouri was not the appropriate time to be used for billing purposes. We saw that
19 Mid-Missouri used the Initial Address Message time, which is measured beginning
20 with the first second the originating party picks up the telephone to dial until the SS7
21 network releases the call for tear down. This time field will always be larger than the
22 Answered Message time (also known as “conversation time), which is measured from
23 the point the call is picked up on the terminating end until the originating party hangs

1 up the telephone. The Answered Message time (conversation time) is the time
2 universally used in the industry for end user billing and intercompany compensation
3 (e.g., access charges). Since BI CDRs have both Answered Message time and Initial
4 Address Message time available, I had the system retrieve both to assure that either
5 time field would be available for comparison.

6

7 In case Local Number Portability (“LNP”) issues arose, I had the system pull the BI
8 field called “Jurisdiction” which is the SS7 Jurisdiction Information Parameter
9 (“JIP”). (The JIP is used for LNP.) Since LNP was not a factor here, this parameter
10 was not useful for this study.

11

12 I also had the system pull the BI fields ORIG_CALLED_NPA,
13 ORIG_CALLED_NXX and ORIG_CALLED_LINE. These are data fields that are
14 derived from the SS7 Originally Called Number parameter. This parameter identifies
15 the party that initiated call forwarding (i.e, the number the originating party dialed).
16 This parameter is not populated on calls that are not forwarded.

17

18 **Q. WERE ANY OF THE DISPUTED CALLS MISSING FROM THE BI DATA**
19 **RETRIEVED?**

20 A. No. The BI data lined up perfectly with the terminating records supplied by Mid
21 Missouri Telephone and the SBC Missouri AMA records.

1 **Q. WHERE ARE THE RESULTS OF THE BI STUDY YOU PERFORMED FOR**
2 **THE SEPTEMBER 12, 2002 TRAFFIC DISPLAYED?**

3 A. The results of my study are included in Hughes Joint Schedule 2HC, on the far right
4 hand side of the spreadsheet under the heading “SS7 Call Detail Record With
5 Separate Ownership/LATA Data Inserted.”

6
7 **Q. WHAT DID BI SHOW REGARDING THE SEPTEMBER 12, 2002 CALLS?**

8 A. Using the BI system as an analysis tool allowed SBC to identify the complete path the
9 September 12 calls took (including redirection) by examining SS7 messages. In
10 addition, BI provided data showing that the September 12 call Mid Missouri portrays
11 as an interLATA call was actually a redirected call.

12
13 **Q. WHAT DO YOU MEAN A REDIRECTED CALL?**

14 A. The BI system showed that the call was placed by a Verizon customer in the St. Louis
15 LATA and originally destined for a SBC local customer in the Kansas City LATA.
16 The SBC customer had call forwarding activated and the call was forwarded on an
17 intraLATA basis to a Mid Missouri local telephone number.

18
19 **Q. CAN YOU PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY?**

20 A. SBC’s BI system, which pulled SS7 information about the complete call path inside
21 SBC’s network, confirms that all but one of the 69 September 12, 2002 calls Mid
22 Missouri identified as landline originated calls were actually wireless calls delivered
23 to SBC’s network by Cingular. BI data also showed that the remaining call came to

1 Mid Missouri as a result being call forwarded on an intraLATA basis. This additional
2 information about redirected calls is not available from terminating recordings.

3

4 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

5 A. Yes.