ATTACHMENT C

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BellSouth Telecommunications, Inc.
FPSC Docket No. 990649-TP
Request for Confidential Classification
Page 1 of 1
9/11/00

CONFIDENTIAL

REQUEST FOR CONFIDENTIAL CLASSIFICATION OF THE REBUTTAL TESTIMONY OF JOSEPH H. PAGE AND EXHIBITS JHP-1, FILED AUGUST 21, 2000 IN FLORIDA DOCKET NO. 990649-TP

Highlighted Copy of Proprietary Material

appeal (x-ref. 10196-00 11246-00)

This confidentiality request was filed by or for a "telco" for DN 11249-00 No ruling is required unless the material is subject to a request per 119.07, FS, or is admitted in the record per Rule 25-22.006(8)(b), FAC.

DOCUMENT NUMBER-DATE
11249 SEP 11 8
FPSC-RECORDS/REPORTING

235-900-113 - Issue 3.00B - Product Specification 5E12 and Later Software Releases

2. SYSTEM CAPACITY AND MEMORY EQUIPAGE
2.1 SYSTEM CAPACITY
2.1.1 OVERVIEW

The 5ESS ® switch capacity is stated as rated call capacity. Rated call capacity is defined to be that load which the processor can sustain indefinitely while still allowing all performance criteria to be met. This capacity supports normal switch personnel operations with sufficient processor reserve capacity for maintenance and administrative functions, fault recovery, and load demand peaking. It is expressed in terms of completed calls per hour.

The communication module processor (CMP) in the message switch (MSGS) is responsible for centralized control functions such as routing and global resource allocation. The administrative module (AM) processor is responsible for administration, interfaces with operations systems (OSs) and switch personnel, and the UNIX ® Real-Time Reliable (RTR) Operating System functions such as processor maintenance, process scheduling, memory allocation, and disk interface.

The switching module processors (SMPs) perform the majority of call processing tasks. The SMP is used to process the originating and terminating processes of a call for lines and the incoming and outgoing processes of a call for trunks.

The rated capacity of the 5ESS ® switch is 1,100,000 equivalent plain old telephone service (POTS) calls per hour. An equivalent POTS call is defined in "Metropolitan/Equivalent POTS Office", Section 2.1.2.1 . For toll/tandem 5ESS ® switch offices with quad link package switches (QLPS), SM-2000s and a Direct Link Node 30 (DLN30), the rated call capacity is 750,000 toll or tandem calls per hour. See "Toll/Tandem Office", Section 2.1.2.4 , for the toll/tandem capacity. For a metropolitan office, the rated call capacity is 650,000 calls per hour. See "Metropolitan/Equivalent POTS Office", Section 2.1.2.1 , for the metropolitan capacity. See "OSPS Office", Section 2.1.2.5 , for the various Operator Services Position System (OSPS) office capacities.

For additional information about the termination and traffic characteristics of the 5ESS ® switch, see the 235-070-100, Administration and Engineering Guidelines.

2.1.2 CMP RATED CALL CAPACITY
2.1.2.1 Metropolitan/Equivalent POTS Office

The following local office call mix model is used to calculate the equivalent POTS capacity of the 5ESS ® switch. (See Figure 2-1 .)

NOTE: For further detail about the calculations, see the 235-060-110 , 5DOPS - Engineering Procedures, and the 235-070-100, Administration and Engineering Guidelines.

- 20 percent line-to-line calls [billed through the Automatic Message Accounting Teleprocessing System (AMATPS)]
- 40 percent line-to-trunk calls [2-way ISDN User Part (ISUP) trunk billed through AMATPS]
- 40 percent trunk-to-line calls (2-way ISUP trunk, not billed).

Figure 2-1 Composite Call Mix Comparison

This model assumes 100 percent intermodule calls, including calls to/from remote switching modules (RSMs), and 0 percent ineffective call attempts (that is, abandonments, partial dials, etc.). Ineffective attempts are handled entirely within the switching module (SM) and therefore have no impact on the switch capacity. Intramodule calls require less CMP real time than intermodule calls.

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The intra-RSM calls are locally routed within the RSM and require very little CMP processing time.

The business and residence custom services (BRCS) features add additional per-call real time on calls utilizing the BRCS features (that is, call forwarding, 3-way calling, etc.). Other features that require additional CMP real-time include alternate route selection, carrier interconnect and simulated facilities group.

The metropolitan model office provides a representative call mix typical of a metropolitan business office with heavy feature penetration and usage. The rated switch call capacity for such an office with the 5E12 and later software release is 650,000 calls per hour, using 65 percent of the CMP processor time for call processing.

With the 5E12 and later software release, approximately 5 percent of the CMP real time is allocated to overhead functions. Included in this is the operating system overhead, audits, system integrity, administrative overhead, and switch maintenance. An additional 30 percent of the CMP real time is held in reserve for load peaking and recent change and verify (See Section 2.1.8). The remaining 65 percent of the CMP real time is allocated to call processing.

The 5ESS ® switch call capacity is sensitive to traffic mix. To calculate the capacity for a particular office, take a weighted average of the call mix to determine the average seconds/call and use the following equations.

The CMP call capacity is directly derived as follows:

Capacity = 3,600 sec/hr x % occupancy x number of calls/sec

For the equivalent POTS call mix, the capacity is as follows:

3,600 x 0.65 x 47.62 = 1,100,000 equivalent POTS calls/hour

2.1.2.2 Common Channel Signaling and CMP Capacity

Common channel signaling provides for the exchange of signaling information through data links that are separate from the voice path. The common channel signaling network is interconnected through packet switch nodes called signal transfer points (STPs). In previous software releases, the common channel signaling feature is based on the common network interface/interprocess message switch (CNI/IMS) hardware and software package for use in the No. 2 STP, the network control point (NCP), and other switching offices. The common channel signaling features available with the 5E11 and later software releases are originating screening office/inward wide area telecommunications service (OSO/INWATS), network call denial (NCD), service switching point (SSP) 800 (866, 855), local area signaling services (LASS) features, ASP features, CNAME and trunk signaling.

There is an AM real-time overhead associated with the CNI/IMS if no DLN is installed. In addition, each call utilizing a common channel signaling feature requires additional AM real time if no DLN is installed. With the DLN, the AM real-time overhead is reduced and any additional real time per call is negligible. A small additional real-time overhead is required in the CMP for outgoing common channel signaling calls.

2.1.2.3 SS7-PSU on SM/EXM-2000

The SS7 Packet Switch Unit (PSU) can exist on an SM-2000, EXM-2000, VCDX, RSM, or DRM.

The introduction of SM-based Signaling System 7 (SS7) signaling on the SM-2000/EXM-2000 allows basic subscriber features and services that require SS7 signaling to continue intra-module operation if the SM-2000/EXM-2000 loses communication with the host and goes into stand-alone operation. The SM-based SS7 signaling platform requires the addition of an SS7 packet switch unit (PSU) to the switching module. For switching modules like the SM-2000, an SS7 PSU can be added and SS7 signaling links terminated to it to provide stand-alone processing if desired.

The feature provides the SM-based SS7 message transfer part (MTP) and signaling connection control part (SCCP) signaling platform SS7-PSU on the SM, RSM, ORM,

	A	B	C	D	E	F	G	H	I	J
1				DMS						
2	**Equipment**	**Material $**	**Discount Rate**	**E&I**	**Total**	**Capacity (CCS)**	**$/Unit**	**Utilization**	**Utilized Investment (per CCS)**	**Source**
3	Variable Announcement	$ 11,725.00	0%	$ 209.96	$ 11,934.96	77.4	$ 154.20	85%	$ 181.41	Nortel
4	6-port Conference Circuit	$ 4,020.00	0%	$ 67.86	$ 4,087.86	125	$ 32.70	100%	$ 32.70	Nortel
5	3-port Conference Circuit	$ 4,020.00	0%	$ 67.86	$ 4,087.86	250	$ 16.35	100%	$ 16.35	Nortel
6	Call Waiting Tone	$ 1,581.90	76%	$ 71.26	$ 450.92	18	$ 24.51	100%	$ 24.51	SCIS/IN
7	**Average**								***$ 63.74***	
8										
9				5ESS						
10	**Equipment**	**Material $**	**Discount Rate**	**E&I**	**Total**	**Capacity (CCS)**	**$/Unit**	**Utilization**	**Utilized Investment (per CCS)**	
11	30-Second Announcement	$ 7,000.00	0%	$ 680.00	$ 7,680.00	288	$ 26.67	85%	$ 31.37	Lucent
12	60-Second Announcement	$ 7,000.00	0%	$ 680.00	$ 7,680.00	288	$ 26.67	85%	$ 31.37	Lucent
13	DSU2/SAS/BRCS	$ 23,000.00	0%	$ 1,450.00	$ 24,450.00	732	$ 33.40	85%	$ 39.30	Lucent
14	6-port Conference Circuit	$ 37,000.00	0%	$ 4,600.00	$ 41,600.00	320	$ 130.00	100%	$ 130.00	Lucent
15	3-port Conference Circuit	$ 37,000.00	0%	$ 4,600.00	$ 41,600.00	880	$ 47.27	100%	$ 47.27	Lucent
16	**Average**								***$ 55.86***	
17										
18										
19	**Equipment**	**Material $**	**Discount Rate**	**E&I**	**Total**	**Capacity (Lines)**	**$/Unit**	**Utilization**	**Utilized Investment (per Lines)**	
20	DMS									
21	Class Modem Card	$ 5,490.00	76%	$ -	$ 1,317.60	435.75	$ 3.02	100%	$ 3.02	SCIS/IN

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BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF

JOSEPH H. PAGE

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 990649-TP

(PHASE II)

Filed: August 21, 2000

PROPRIETARY VERSION

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. My name is Joseph H. Page. My business address is 675 W. Peachtree St., N.E., Atlanta, Georgia. I am a Manager in the Core Marketing Department of BellSouth Telecommunications, Inc. (hereinafter referred to as "BellSouth" or "the Company"). My current area of responsibility relates to pricing strategy.

Q. ARE YOU THE SAME JOSEPH H. PAGE WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. I filed direct testimony in this proceeding on behalf of BellSouth on May 1, 2000.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my testimony is to respond to several issues raised by AT&T / MCI witness Ms. Pitts and Z-Tel witness Dr. Ford concerning the methodology and inputs used in the switching cost study. My testimony is organized as follows:

- Switching Cost Information System / Model Office (SCIS/MO) errors in Integrated Services Digital Network (ISDN) results.
- Assignment of switch processor Getting Started costs to features.

- Feature Usage Inputs.
- Feature Hardware Study.
- Switch discounts.
- Centrex Intercom usage costs.
- AT&T / MCI's proposed switching cost methodology.

SCIS/MO STUDY REVISIONS

Q. DOES THE SCIS/MO 2.6.1B RELEASE USED FOR THE AUGUST 16, 2000, FILING CORRECT THE PROCESSING ERRORS ASSOCIATED WITH ISDN THAT ARE ADDRESSED ON PAGES 7 AND 8 OF AT&T / MCI WITNESS MS. PITTS' TESTIMONY?

A. Yes. The SCIS/MO now correctly computes investments for ISDN on DMS RSC-S remotes. Although BellSouth did not encounter the error message problems in SCIS/MO that Ms. Pitts describes, BellSouth did detect the problem with the Minimum Investment per PRI. The Simplified Switching Tool© (SST) model included in BellSouth's April 17, 2000 cost study filing contained a formula adjustment that compensated for the Minimum Investment per BRI problem. Since Telcordia has now corrected the SCIS/MO model, the adjustment has been removed from the SST model included in the August 16, 2000 cost filing. The corrected investments are reflected in BellSouth's updated cost study. As a result, the restated ISDN port investments in Mr. King's testimony are not relevant and should be disregarded.

SWITCH PROCESSOR COSTS FOR FEATURES

Q. WHAT IS AT&T / MCI WITNESS MS. PITTS' POSITION REGARDING THE ASSIGNMENT OF PROCESSOR COSTS TO FEATURES?

A. On page 22, line 21 of her rebuttal testimony Ms. Pitts says "BellSouth's presumption that features, because they use the processor, must pay for the processor is misguided." On page 23, line 3 she claims that "feature usage does not impact the level of getting started investment."

Ms. Pitts is wrong about this in at least two respects, both theoretical and practical. She is incorrect in saying that "the processor, along with the rest of the getting started cost of the switch is a fixed cost" (p. 23, line 2). One fundamental principle of long-run costing is that the replacement of a large "lumpy" investment, such as a switch processor, is advanced in time by increased usage.

Aside from the theoretical flaws in Ms. Pitts' arguments, she ignores plentiful evidence from the switch vendors themselves that features do affect the useful capacity of a switch, and therefore will help determine the number and type of switches that must be placed. Much of this documentation was provided to AT&T by BellSouth in response to AT&T's First Production of Documents, Request No. 14. For example, Exhibit JHP-01 to my testimony has pages from Lucent Practice 235-900-133, Issue 3.00B, provided in response to AT&T Request No. 14e, which show that the 5ESS switch has capacity constraints in terms of the number of calls the switch can process in the busy hour.

Q. AT&T / MCI WITNESS MS. PITTS, ON PAGE 16 OF HER TESTIMONY, CLAIMS "BELLSOUTH'S METHODOLOGY ASSUMES THAT BOTH THE LUCENT AND NORTEL SWITCHES PROCESS ALL FEATURE CALLS IN THE CENTRAL PROCESSOR." DO YOU AGREE?

A. No. In fact, the SST-U model algorithms recognize that the Lucent and Nortel switches have different architectures and process calls differently. Ms. Pitts has apparently misunderstood the SST-U model algorithms. The SST uses a variable called "Processor Realtime (Milliseconds) per Call" that represents the total realtime milliseconds available for call processing divided by the vendor's stated call processing capacity for the switch. This variable is reflected in the SST-U model, worksheet UNE Main, Column F, where it is labeled an average number of milliseconds per call. Some calls may make more use of the central processor, and some may make none, but this in no way implies that every feature call must use the central processor.

Q. PLEASE EXPLAIN THE DIFFERENCES BETWEEN THE LUCENT AND NORTEL SWITCHES IN TERMS OF PROCESSING FOR CALL SETUP AND FEATURES.

A. The Lucent 5ESS® switch uses a distributive processing architecture, in which the Switch Modules (SMs) (the same modules that house line and trunk terminations) perform the bulk of call processing and vertical feature processing. The 5ESS® switch has two other processors, the Communications Module Processor (CMP) and the Administrative Module (AM), which perform call processing functions such as overall call routing, resource allocation, and billing[1].

The Nortel DMS-100® switch, by contrast, performs call and feature processing within a central switch processor.

Q. PLEASE EXPLAIN WHY BELLSOUTH AND SCIS/MO ARE JUSTIFIED IN ATTRIBUTING THE COSTS OF THE 5ESS® CMP AND AM TO FEATURE AND CALL PROCESSING.

A. The SCIS Model Office equations group the CMP and AM components together into the Getting Started cost category. As mentioned above, these components are responsible for maintaining the overall call processing flow and administrative functions of the switch. This is clear from Lucent's own documentation.

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***** Begin Proprietary** Lucent Practice 235-900-133, Issue 3.00B[2], clearly notes

[1] Lucent Technologies Practice 235-900-113, Issue 3.00, Section 2.1.1.

[2] Lucent Technologies Practice 235-900-113, Product Specification 5E12 and Later Software Releases, Section 2.1.1.

that, in regards to the CMP:

> The business and residence custom services (BRCS) features add additional per-call realtime on calls utilizing the BRCS features (that is, call forwarding, 3-way calling, etc.). Other features that require additional CMP real-time include alternate route selection, carrier interconnect and simulated facilities group.

*** **End Proprietary** *** DECLASSIFIED

Q. WHAT OTHER ERRORS DOES MS. PITTS MAKE REGARDING THE ASSIGNMENT OF PROCESSOR COST TO CALL PROCESSING AND FEATURES?

A. Ms. Pitts, on Page 17, footnote 18 of her rebuttal testimony, claims that "processors in digital switches do not limit the capacity of the switch, instead, switches are port limited..." There is abundant evidence that switches generally have three capacity limitations: ports, processor capacity, and minutes of use (MOU) capacity. The port is one of several limitations that may exist on a switch, but it is clearly not the only capacity limitation as Ms. Pitts claims. Lucent Practice 235-900-133, Issue 3.00B, clearly states that "The 5ESS© switch capacity is stated as rated call capacity" and that "the rated capacity of the 5ESS switch is *** **Begin Proprietary** *** 1,100,000 *** **End Proprietary** *** equivalent plain old telephone service (POTS) calls per hour." The capacity constraint on these components is busy hour calls, not lines as Ms. Pitts claims. Furthermore the vendor has separate capacity statements for rural and metro offices, based on the fact that metro offices have higher penetrations of vertical feature use (driven by business customers). Note that the 5ESS, in the metro environment, has a rated capacity of only *** **Begin Proprietary** *** 650,000 *** **End Proprietary** *** busy hour calls as a direct effect of feature use[3]. From the standpoint of cost causality, it stands to reason that components whose purpose is to manage call processing, and whose capacity constraints are stated by the vendor in terms of call processing, should be assigned to calls, not line ports as Ms. Pitts suggests.

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Q. WHAT OTHER EVIDENCE DO YOU HAVE THAT CALL AND VERTICAL FEATURE PROCESSING CAUSE ADDITIONAL COSTS IN DIGITAL SWITCHES?

A. The FCC has considered this issue in the development of a forward-looking cost model for use in the universal service high-cost support mechanism. In a 1997 Public Notice the FCC clearly specified that "the models' algorithms for determining switch size should include switch capacity constraints based on (1) number of lines; (2) number of busy-hour call attempts; and (3) busy-hour traffic (measured in hundreds of call seconds)." [4] The FCC also notes that the proponents of the Hatfield cost proxy model, AT&T and MCI, agree that

[3] Lucent Technologies Practice 235-900-113, Section 2.1.1.

[4] Guidance to Proponents of Cost Models in Universal Service Proceeding: Switching, Interoffice Trunking, Signaling, and Local Tandem Investment, Public Notice, CC Docket Nos. 96-45, 97-160, DA 97-1912, Sept. 3, 1997, page 3.

switches have these three capacity limitations.

The Hatfield Model evolved into the HAI model, of which AT&T and MCI are also sponsors. The HAI model contains capacity constraints for call processing, ports, and minutes of use. The HAI model, Release 5.1, also includes a "Feature Loading Multiplier" which reflects "the amount by which the load on a processor exceeds the load associated with ordinary telephone calls, due to the presence of vertical features, Centrex, etc."[5] The HAI Model Version 5.1 includes an input of 600,000 Busy Hour Call Attempts (BHCA) as a capacity constraint for switches over 40,000 lines (HAI Model 5.1 Inputs Portfolio, page 4). My exhibit JHP-02 provides the HAI Model Release 5.1 BHCA constraints. The HAI Model also recognizes that call processing and features can and do cause additional switch costs:

> If the model determines that the load on a processor, calculated as the number of busy hour call attempts times the processor feature load multiplier, exceeds the switch real time limit multiplied by the switch maximum processor occupancy, it will add a switch to the wire center[6].

Finally, the FCC incorporated the AT&T / MCI recommended switch capacity constraint inputs into its November, 1999 Report and Order on input values for the HCPM/HAI hybrid cost proxy model chosen for the universal

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[5] HAI Model Release 5.1 Inputs Portfolio, page 88. Filed by AT&T in Georgia Docket No. 10692-U, *Generic Proceeding to Establish Long-Term Pricing for Policies for Unbundled Network Elements,* June 11, 1999. AT&T filed this HAI methodology in support of its supposed rates for UNE combinations in that docket.

[6] HAI Model Release 5.1 Inputs Portfolio, page 84.

service support mechanism[7].

Based upon the plentiful evidence that switches are call-processing limited, and features present an incremental operating load (and cost) to the switch processors, Ms. Pitts' testimony to the contrary is uninformed and should be disregarded.

Q. HAS THIS COMMISISON ADDRESSED THE TREATMENT OF FEATURE COSTS FOR UNES?

A. Yes. In Order No. PSC-98-0604-FOF-TP, Dockets Nos. 960757-TP, 960833-TP, and 960846-TP, pages 154 – 159 the Commission considered the same arguments from Ms. Pitts (then Ms. Petzinger) surrounding the assignment of Getting Started costs to call processing and features. The Commission's conclusion was that processor usage is an appropriate component of the costs of vertical features:

> The local usage rates that we set in Order No. PSC-96-1579-FOF-TP included processor usage for vertical features. We believe that this is consistent with the FCC's definition that all features, functions, and capabilities of the switch are included with the switching element.

[7] In the Matter of Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High-Cost Support for Non-Rural LECS, CC Dockets Nos. 96-45 and 97-160, Tenth Report and Order, November 2, 1999, Appendix A, Page A-11.

FEATURE USAGE INPUTS

Q. MS. PITTS TAKES ISSUE WITH THE BUSY HOUR CALL USAGE INPUTS TO THE SST-U STUDY. PLEASE COMMENT ON HER CONCLUSIONS.

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A. Ms. Pitts, in her admittedly "casual review" of the inputs (p. 18) apparently misunderstands the methodology BellSouth used in developing busy hour call usage. As explained in my May 1, 2000, direct testimony, BellSouth compiled the busy hour calling rates for 56 features. The calling rates ranged from ***Begin Proprietary*** .01 ***End Proprietary*** busy hour calls to ***Begin Proprietary*** 10.8 ***End Proprietary*** busy hour calls[8]. The simple sum of the calling rates is ***Begin Proprietary*** 63 ***End Proprietary*** calls. Dividing the ***Begin Proprietary*** 63 ***End Proprietary*** calls by 56 features produced an average of ***Begin Proprietary*** 1.1125 ***End Proprietary*** busy hour calls per feature. BellSouth's research shows that the typical subscriber uses about ***Begin Proprietary*** 4 ***End Proprietary*** features on a regular basis. Multiplying the ***Begin Proprietary*** 1.1125 ***End Proprietary*** calls per feature by the ***Begin Proprietary*** 4 ***End Proprietary*** features produces ***Begin Proprietary*** 4.5 ***End Proprietary*** average feature calls in the busy hour. BellSouth believes this number is reasonable because it reflects both originating features, such as 3-Way Calling and Speed Dialing, as well as terminating features, such as Call Waiting or Hunting, as well as CLASS features such as

[8] A table listing the 56 features and the busy hour call rate for each was provided by BellSouth in response to AT&T's First Request for Production of Documents, Item No. 141, May 2, 2000.

Caller ID. Given the variety of features in common use it is not hard to see how a single phone call can invoke two or more features.

With the above framework in mind, it is clear that Ms. Pitts' concerns about the correctness of BellSouth's call usage inputs are misguided. For example, the feature 3-way calling has an input of ***Begin Proprietary*** 0.5 ***End Proprietary*** calls in the busy hour. When comparing this to the overall ***Begin Proprietary*** 2.5 ***End Proprietary*** calls per line average in the busy hour she concludes that this makes for an "inordinately high" number of three-way calls. What Ms. Pitts apparently fails to understand is that the ***Begin Proprietary*** 0.5 ***End Proprietary*** calls applies only for those subscribers who *use* 3-way calling, which is a relatively small number. The SST feature cost result does not, therefore, reflect ***Begin Proprietary*** 0.5 ***End Proprietary*** 3-way calls in the busy hour, as Ms. Pitts' testimony would lead us to believe.

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To clarify, the input set assumes that ***Begin Proprietary*** 56 ***End Proprietary*** features will be generally used. The average number of features per line using the processor is ***Begin Proprietary*** 4 ***End Proprietary***. The portion of the total ***Begin Proprietary*** 4.5 ***End Proprietary*** calls per line attributable to 3-way calling is, therefore, ***Begin Proprietary*** (4/56)*.5 or .036 ***End Proprietary*** calls in the busy hour. This is the number of 3-way calls reflected in the Features UNE cost, not ***Begin Proprietary*** 0.5 ***End Proprietary*** calls. Ms. Pitts' analysis of the calling frequency of

Night Service is equally misguided.

Q. AT&T WITNESS MS. PITTS CLAIMS THAT "BELLSOUTH'S EXAMPLE FOR CHARGING A LINE PATH TO A FEATURE IS INCORRECT." DOES THIS MEAN THE SST FEATURE COST FORMULAS ARE INCORRECT?

A. No, the SST formulas and inputs are correct. Ms. Pitts quotes a statement from the SST Methodology document that was intended to describe in general how a feature such as 3-Way Calling may use additional line path resources in the switch. Ms. Pitts then provides a lengthy discussion of how the local switching MOU charges will, in the case of 3-Way Calling, recover the cost of that additional line path. Ms. Pitts' discussion may lead the reader to believe that the SST is double-counting the line path costs of 3-Way Calling, but this is not the case. The feature usage data set developed for the SST does not include any additional line path usage for 3-Way Calling. As a result the SST feature cost results are correct, and do not include any additional line path costs for 3-Way Calling.

Q. HOW DO YOU RESPOND TO OTHER CRITICISMS OF MS. PITTS CONCERNING BELLSOUTH'S DEVELOPMENT OF FEATURE COSTS?

A. Ms. Pitts makes numerous criticisms of BellSouth's feature cost inputs, and expounds many opinions regarding the correct values and application of those inputs, despite admitting on page 22 that she does "not have accurate call usage data." In other words, Ms. Pitts confirms that she has no basis for judging whether the inputs are reasonable or not, which is reason alone for disregarding her testimony about feature usage.

In regard to Ms. Pitts' criticism that BellSouth should use weighted average take rates for the features instead of mathematical averages, BellSouth agrees, in principle. However, the issue is that BellSouth's UNE features will be used by the ALECs' customers, not BellSouth's customers. BellSouth obviously has no way of knowing which features the ALECs will offer their customers, or the expected take rate for each feature. In the absence of that information, the most reasonable approach is to use the arithmetic average until such time as the ALECs can provide the necessary market forecasts.

BellSouth's goal with feature costing, as with all cost studies, is to produce the most accurate study possible with the data available. If AT&T, MCI or any other intervenors have suggested input values for feature usage, that are based valid estimation techniques and market forecasts, then BellSouth would consider their use. AT&T and MCI, however, do not bring any constructive alternatives for feature usage data to the table.

FEATURE HARDWARE STUDY

Q. AT&T / MCI WITNESS MS. PITTS CLAIMS, ON PAGE 11, THAT BELLSOUTH'S FEATURE HARDWARE STUDY HAS "INVESTMENT, CAPACITY, AND UTILIZATION ERRORS."

PLEASE COMMENT ON THE CLAIMED INVESTMENT ERRORS.

A. Ms. Pitts notes on page 13, lines 2 – 4 that BellSouth's Class Modem Resource Card investment should have discounted instead of being included at list price. Ms. Pitts is correct that a discount should have been applied.[9] On page 13, lines 11 – 14 Ms. Pitts claims that "it appears that at least one technology's investments included 'loadings' and costs for 'associated resources'. It is probable that some of these associated resources are double counted here and again in the telco installation factor, and/or other factors." The conjecture that these "associated resources" are double counted is without basis and is not true. Based on information provided by Lucent, these "associated resources" are switch cabinets, which are not included in any other BellSouth factors.

Q. PLEASE COMMENT ON THE CLAIMED CAPACITY ERRORS.

A. Ms. Pitts claims on page 14, lines 7 – 11 that BellSouth's use of two Call Waiting tone circuits is incorrect, but an examination of the SCIS/IN formulas shows that the two circuits is correct.

Ms. Pitts claims on page 14, lines 12 - 16 that BellSouth's estimate for the number of lines sharing a CLASS modem card is too low. Upon further evaluation, the number of lines sharing a CLASS modem card from should be changed from 76.8 to 435.75. The revised number of lines reflects

[9] The correct blended discount should be applied to all hardware items, not Ms. Pitts' hypothetical replacement only discount.

utilization, so the utilization input for the CLASS modem should be 100%

The capacities for the SAS announcement circuit should be modified based on new information from the switch vendor as reflected in my exhibit JHP-03.

The following summarizes the proposed CCS capacity modifications:

***** Begin Proprietary *****

Equipment Item	Vendor	From CCS	To CCS
6-port Conference Circuit	Nortel	105	125
3-port Conference Circuit	Nortel	210	250
DSU2/SAS/BRCS	Lucent	300	732
6-port Conference Circuit	Lucent	420	320
3-port Conference Circuit	Lucent	840	880

***** End Proprietary *****

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Q. PLEASE COMMENT ON THE CLAIMED UTILIZATION ERRORS.

A. Ms. Pitts notes, on p. 15 lines 5 - 6, that the values for CCS capacity taken from the SCIS hardware tables already reflect utilization, and that it would not be appropriate to apply a utilization factor in cases where these values are used. Upon further examination of the hardware study inputs, BellSouth agrees that the utilization inputs should be changed from 85% to 100% on the following items of equipment:

6-port Conference Circuit	Nortel	100%
3-port Conference Circuit	Nortel	100%
Call Waiting Tone	Nortel	100%
6-port Conference Circuit	Lucent	100%
3-port Conference Circuit	Lucent	100%
Class Modem Card	Nortel	100%

Q. PLEASE COMMENT ON MS. PITTS' "RESTATED HARDWARE STUDY USING NEW SWITCH DISCOUNTS" ATTACHMENT CEP-4 TO HER REBUTTAL TESTIMONY.

A. While Ms. Pitts' study does include a number of corrected inputs, it cannot be used for the Feature UNE study because it has several flaws. The first flaw is Ms. Pitts' use of a hypothetical replacement discount instead of the correct blended discount. The second flaw is the use of the DSU2/RAF/BRCS service circuit instead of the more forward-looking SAS service circuit used in BellSouth's study. Third, the study includes only one Call Waiting tone circuit instead of the required two. For these reasons, AT&T / MCI's Hardware study as presented here and in Mr. King's testimony should be rejected.

SWITCH DISCOUNTS

Q. AT&T / MCI WITNESS MS. PITTS CLAIMS THAT YOUR EXAMPLE OF REPLACEMENT COSTS EXCEEDING MELDED REPLACEMENT AND GROWTH COSTS IS NOT REALISTIC. DO YOU AGREE?

A. No. To begin, let me emphasize that Ms. Pitts never disputes the core principle at issue, which is that switches are purchased with the number of lines needed to serve two or three years' worth of demand. The switch is then grown as necessary, at regular intervals, to accommodate expected increases in demand. Furthermore, the growth equipment is purchased at a lower discount rate than the initial switch purchase. My Exhibit JHP-1 attached to my direct testimony used a 10% growth rate to illustrate the principle that a higher initial discount coupled with a lower replacement discount is economically sound. As my exhibit JHP-04 to this testimony illustrates, reducing the growth rate to 5% does not alter this principle. In that example, the replacement-only discount yields a capital expenditure $164,633 higher than the blended discount which is advocated by BellSouth.

Ms. Pitts inexplicably takes issue with the use of a 10-year switch life in the example, despite the fact that BellSouth's economic life for switching is 10 years, as provided by Mr. Cunningham's testimony. In her apparent confusion, she states that "it is doubtful that the switch contracts currently in place would be effective through the year 2010, making the prices pure speculation." While that may be true, it is not relevant to the principle being illustrated. Any changes in the future switch contracts will affect the replacement discounts as certainly as the blended discounts.

Q. Z-TEL WITNESS FORD BELIEVES THE COMPUTATION OF BELLSOUTH'S REPLACEMENT DISCOUNT IS "FLAWED." DO YOU AGREE?

A. Absolutely not. Dr. Ford, in his July, 31, 2000 direct testimony, says that

BellSouth's approach is flawed because BellSouth used a contractual discount rate for growth discounts, while using a computed replacement discount. Dr. Ford then concludes (without any basis in fact) that BellSouth's replacement discount is potentially understated.

DECLASSIFIED

Q. WHY DID BELLSOUTH NOT USE A CONTRACTUAL REPLACEMENT DISCOUNT, AS DR. FORD RECOMMENDS, RATHER THAN THE COMPUTED DISCOUNT?

A. Dr. Ford, by his own admission, has not "personally reviewed any switch contracts between BS-FL and its switch vendors (p. 8, line 10)." If he had reviewed the contracts[10], he would have learned that switch replacement jobs are priced under a structure completely different from that used for growth jobs. There is no stated discount for replacement switches in BellSouth's contracts. *****Begin Proprietary***** Replacements are priced using what is known as "equivalent line pricing." Under equivalent line pricing, switches are priced on a per-line basis, without reference to the list prices for the equipment needed. The per-line price can vary significantly from switch to switch according to the types of lines installed on the switch, engineering factors such as line concentration ratios, and the features, functions, and capabilities installed on the switch. *****End Proprietary*****

Given that there are no stated discount percentages for replacement switches,

[10] BellSouth's switch vendor contracts and the studies used to develop the replacement discounts were made available for inspection at BellSouth's premises in response to discovery requests by various parties in this proceeding.

BellSouth computed the replacement discount based on vendor billing for actual switch orders. As described in detail in my direct testimony, this derived replacement discount, when input into SCIS/MO, produces a result that accurately reflects vendor billing.

Q. DR. FORD CLAIMS THAT BELLSOUTH'S REPLACEMENT DISCOUNT COMPUTATION POTENTIALLY UNDERSTATES THE DISCOUNT. IS THIS TRUE?

A. No. Dr. Ford is somehow under the impression that the SCIS/MO model reflects switch prices from a different (later) time frame than the switch orders used to compute the discount. This, according to Dr. Ford, could result in "discount deflation" because switch prices decline over time. This hypothetical problem does not exist in the BellSouth study because the switch orders examined covered the years 1997, 1998, and 1999. The SCIS 2.6.1 database, used for the study, uses list prices effective 12/1/1998. The time frames are consistent, resulting in a consistent discount computation.

CENTREX INTERCOM USAGE COSTS

Q. HOW DO YOU RESPOND TO MS. PITTS' POSITION, ON PAGE 24 OF HER REBUTTAL TESTIMONY, CONCERNING THE CENTREX INTERCOM USAGE RATE ELEMENT?

A. Ms. Pitts claims that the Centrex intercom usage should not be flat-rated because AT&T / MCI understood that ALEC UNE-P lines generate usage charges for the intercom calls. At the time of BellSouth's April 17, 2000 cost study filing, it appeared that BellSouth would not have the ability to generate UNE switch charges for these calls. More recent research indicates that BellSouth will be able to bill for these calls. This means that the Centrex Intercom Usage feature should be set to zero, as Ms. Pitts recommends.

AT&T / MCI'S PROPOSED METHODOLOGY

Q. WHAT IS YOUR ASSESSMENT OF AT&T / MCI'S "SIMPLIFIED METHODOLOGY?"

A. Ms. Pitts' "methodology" is too vague and sketchy to support a cost study. It is based upon a contradictory design philosophy from the beginning. Note that when beginning her discussion of this "methodology," Ms. Pitts complains that the SST has too many "generalizations." Ms. Pitts' methodology, however, is many times more generalized than the SST. Instead of determining, for example, the switch usage due to the various features and services available on a switch, Ms. Pitts' methodology would assume that each and every subscriber uses the same set of services! There is no demonstration that this methodology is grounded in any underlying economic principles or actual switch architecture.

Q. WHAT SPECIFICALLY ARE THE PROBLEMS WITH MS. PITTS'

METHODOLOGY?

A. The methodology is too simplistic to produce meaningful UNE investments:

- It ignores long established rate structures for UNEs, toll and access because it does not distinguish between the very real costs of setting up a call, as opposed to per-minute costs.

- Feature costs are lumped in with other traffic-sensitive costs in the switch, forcing all subscribers to pay for features whether they use them or not. As a matter of fact, this methodology would result in ALECs paying for features as part of the Call Transport and Termination rates paid to BellSouth.

- By assigning Getting Started costs to line ports, this methodology violates cost causation principles. Ms. Pitts admits that "the processor must be purchased for basic call processing" (p. 22, line 23). It would be clearly illogical to allocate these traffic-sensitive call processing costs to the non-traffic sensitive line port, which does not perform call processing.

- The methodology would produce unusable results because it does not account for remote switches. The Getting Started Cost (processor) of the host switch supports subscribers on the subtending remotes as well. This methodology, by simply allocating each switch's Getting Started cost to its ports, would overstate the cost of each host switch and drastically understate the cost of each remote.

Ms. Pitts' recommendations are thoroughly contradictory and self-serving, and on that basis alone should be disregarded. For example, she complains that BellSouth's method for averaging feature usage inputs (used to assign "getting started" call processing costs) is "simplistic" (p. 27) and that BellSouth's simplifying assumptions are "incorrect." However, Ms. Pitts' own proposal for assigning the "getting started" costs of processor capacity is to simply divide those costs by the number of lines on the switch and assign them all ports (p. 28). Talk about simplistic! Ms. Pitts' proposal would completely ignore cost causation and crudely assign the same call processing cost to each subscriber, regardless of the number of calls that subscriber makes.

This proposed methodology is nothing more than a transparent attempt by AT&T and MCI to lower the results of Switched Access and Local Interconnection cost studies. The getting started call processing costs at issue are an important component of call setup costs for access and local service. Assigning that cost to ports would make the results of the Switched Access and Local Interconnection cost studies significantly lower and potentially reduce the rates AT&T and MCI would pay for those services.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.