Missouri Public Service Commission

POST OFFICE BOX 360
JEFFERSON CITY, MISSOURI 65102
573-751-3234
573-751-1847 (Fax Number)
http://www.ecodev.state.mo.us/psc/

Mr. Dale Hardy Roberts
Chief Regulatory Law Judge/Secretary
Missouri Public Service Commission
301 W High St.
Jefferson City, MO 65102-0360

RE: Case No. TO-98-115

Dear Mr. Roberts:

Pursuant to the December 23, 1998 Arbitration Order from the Missouri Publice Service Commission, the Arbitration Advisory Staff (Staff) is filing copies of its "Costing and Pricing Report, Vol 2." This report contains the Staff's position and recommendations on the unresolved pricing issues in Case No. TO-98-115. Please note that there are 6 copies plus the original of the highly confidential version of the report and 8 copies plus the original of the non-proprietary version of the report. Copies of both versions of the report have been sent to AT&T, SWBT, and Office of the Public Counsel.

Sincerely,

Daniel R. Gordon
Arbitration Advisory Staff

CC: AT&T
Office of the Public Counsel
SWBT

Costing and Pricing Report, Volume 2

Case No. TO-98-115

Presented to the Missouri Public Service Commission
from the Arbitration Advisory Staff

July 24, 1998

NP

Table of Contents

INTRODUCTION

On September 10, 1997 AT&T Communications (AT&T) filed a petition for a second round of arbitration with Southwestern Bell Telephone (SWBT), which established Case No. TO-98-115. Officials from AT&T and SWBT met with members of Missouri Public Service Commission's Arbitration Advisory Staff (Staff) in the month of November to mediate and arbitrate outstanding issues. During the mediation/arbitration process, several issues regarding rates for services and unbundled network elements (UNEs) were presented. Both parties agreed to let the Staff review SWBT's cost studies and recommend modifications to the Commission to set permanent rates. On December 23, 1997, the Missouri Public Service Commission (MoPSC) issued a Report and Order in Case No. TO-98-115, In the Matter of AT&T Communications of the Southwest, Inc.'s Petition for Second Compulsory Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Southwestern Bell Telephone Company. This Order indicated SWBT was to allow the Staff to review the remaining cost studies. Staff met with SWBT and AT&T officials to discuss the UNEs and cost studies. The report is organized as follows: Proposed Rates, Summary of Modifications, and Summary of Cost Studies.

The Staff reviewed cost studies on elements that were not arbitrated in TO-97-40/TO-97-63. The first section includes a list of modifications Staff recommends. With these modifications, SWBT's costs will become based on TELRIC.

The second section of the report contains the prices proposed by Staff, SWBT, and AT&T. At this time, the proposed prices from Staff are estimates and should be used for discussion purposes only. Staff was able to determine the appropriate rates for all NRCs. Since Staff did not have the resources to produce cost studies for UNEs, Staff requested SWBT rerun its cost studies with Staff's recommendations. Until SWBT has completed revising the cost studies, it has provided estimates of the impact of Staff modifications to the prices. Staff will file the new cost studies later in June. As soon as those are reviewed by Staff, they will be presented to the Commission as an addendum. Final prices for the remaining issues in Case No. TO-98-115 can then be set.

The third section contains a review of the studies and models used to generate the prices for unbundled network elements (UNE) and services. This section contains the review of SWBT's cost studies as well as a detailed description of Staff's proposed modifications and the rationale for making the modifications. The companies have been requested to respond to Staff's proposals, as soon as Staff receives the responses, they will be presented to the Commission. In each instance, Staff discussed the areas of concern and the proposed change with SWBT officials and AT&T officials to obtain their input. A summary matrix of Staff's, AT&T's, and SWBT's positions will be presented to the Commission as an addendum.

Most of the cost studies were for NRCs. Like NRCs in Case No. TO-97-40/67, Staff recommends cutting SWBT's proposed rates in half. This recommendation is based on the fact that neither side has presented solid evidence to support its claims that the labor effort required is as long as SWBT claims or is as short as AT&T claims. It is also based on the fact that neither side can prove that the NRCs are recovered through the recurring charges or that the NRCs are not recovered through the recurring charges. Where the companies gave better evidence to support their side of the issue, Staff was able to make different recommendations to the NRCs. The different recommendations impact the service order cost studies. For some of the service order cost studies, Staff felt that AT&T's argument was more logical in a forward looking environment.

The fourth section describes AT&T's non-recurring cost model (NRCM). This model was developed from the input of subject matter experts on labor needed to complete a job and the labor rates associated with different level employees. At this time, Staff cannot recommend using this model to develop costs for SWBT. Staff finds four reasons for which it cannot support the NRCM: 1) The model is a work in progress and the current version does not find costs for all elements or services; 2) The model is based on subject matter expert (SME) estimates; 3) Staff does not know the extent of how much of the NRCs are recovered through the monthly recurring charges; and 4) This cost review is based on purchasing UNEs of SWBT's network. Therefore, like the cost review in Case No. TO-97-40/67, Staff opted to recommend modifying SWBT's cost studies.

SECTION I.
SUMMARY OF MODIFICATIONS

This section summarizes Staff recommended modifcations to SWBT's cost studies. The modifications are broken down by cost study category. The bolded type denotes the cost category and the italicized type denotes a specific cost study. The global modifications are all taken from Case No. TO-97-40/67. A full summary of those modifications may be found in the Costing and Pricing Report in that case. The remainder of the list is the modifications to the specific cost studies involved in this arbitration. Further explanation of the modifications may be found in the corresponding section of the report.

Global

All changes recommended in Case No. TO-97-40/67:

- Cost of Capital should be 10.36%.
- Depreciation lives should be Commission specified lives from TO-97-40/67.
- Income tax should be 38.36%.
- There should be no application of inflation.
- Removal of CC/BC ratio from the numerator and denominator of the Building factor in ACES.
- Historic building and grounds maintenance factor to be consistent with changing the building factor.
- Any other applicable modifications staff recommended in TO-97-40/67 that apply to the cost studies in dispute in this arbitration.
- No application of common cost to any NRCs.
- Use of four rate zones.

Crossconnects

Unbundled 4-wire DS-1 Loop Cross-Connect to Multiplexer

- Global modifications.

Unbundled Crossconnects to DCS and Switch Ports

- Global modifications.

CLEC to SS7 STP

- Global modifications.

Local Switching Features -- Analog and ISDN

- SWBT has proposed a $5.00 per order service charge for every order that generates a service order on a mechanized basis, which is inconsistent with the Final Arbitration Order in TO-97-40/67. Staff believes the $5.00 service order charge applies to as is conversion for resale or UNEs, not for other services or features. Staff's position is also supported in section 3.6 of Appendix Pricing-

UNE of the AT&T/ SWBT interconnection agreement.

- 5 minutes per feature or combination of features. Hunting arrangements should include ½ of the currently proposed Recent Change Memory Administration Center (RCMAC) time. Neither side has presented solid evidence to suggest other labor times. Staff believes that there should be a different rate for hunting features since a little extra labor effort is required to program the number sequence.
- Use 0.05 fallout factor on all features. This factor is to account for automation of the service order process and is based on current flow through estimates from SWBT officials during OSS demonstrations. This factor also represents the need for manual intervention on orders that are normally automated. Staff assumes five percent of orders will need correction or clarification through manual intervention. In other words, the factor represents the percentage of orders that require manual intervention when all others flow through electronically to completion with no problems. Thus, 5 percent of all orders will require manual intervention and 95 percent will flow through with no problems.
- All other applicable global modifications.

Unbundled Call Trace Per Activation

- The rate for local switching port features should apply here. Staff does not believe there is a need for different port feature charges. For an explanation see the recommendation under **Local Switching Features -- Analog and ISDN**. The rate should apply per port and per successful trace.

Direct Inward Dialing

- Both parties agreed to a rate for DID. No changes are recommended other than applicable global modifications.

Unbundled PRI Port Features

- Neither side presented an adequate argument since their inputs are based on SME estimates. Staff believes that port feature activation for PRI is more involved than analog or BRI port features because of its complex nature, so more time will be spent activating the features. However, neither side has evidence to support its claims. Therefore, Staff recommends implementing global modifications and that SWBT's rates be cut in half.

Unbundled BRI CSV/CSD / Unbundled BRI Port Features

- See local switching feature modifications. Staff believes there is no difference between activating BRI features and activating other local switching features, therefore the same rates for local switching features should apply to BRI port features. For an explanation see the recommendation under **Local Switching Features -- Analog and ISDN**.

Unbundled Centrex-Like Features -- Analog/ISDN

- See local switching feature modifications. Staff believes there is no difference between activating Centrex-like features and activating other local switching features, therefore the same rates will apply. For an explanation see the recommendation under **Local Switching Features -- Analog and ISDN**.

Unbundled Dedicated Transport

Entrance Facilities

- Any changes to the Loopvest model recommended in Case No. TO-97-40/67 must be reflected in the entrance facility cost studies. Entrance facilities are part of the interoffice transport. Cost studies for entrance facilities were included in the Dedicated Transport cost studies SWBT submitted. Specifically, Staff recommended the use of loop samples specific to DS1 and DS3, which are the two entrance facility types SWBT determined costs for.
- OC-X entrance facilities should be ICB priced.
- Global modifications.
- NRCs should be cut in half to be consistent with the treatment of other UNEs in TO-97-40/67.

LIDB

- Any changes made to CCSCIS and the signaling cost studies from TO-97-40/67 that impact the LIDB studies should be made to the cost study:

  STP Utilization:
  A link - 46.13125%
  C link - 12.9%
  D link - 40.47%
  SCP link - 18.76%
  800 DB queries - 286
  LIDB queries - 30.25
  CNAM queries - 359.37
  10% port growth per year
  10% BH queries/second growth per year
- Any applicable global modifications.
- SWBT calculated the update cost incorrectly for initial and ongoing updates. The rates should be equal for both types of updates. Double check the math in this calculation.
- Service order charge is an NRC and should be cut in half to be consistent with other the treatment of other NRCs.

Access to DA Database

- Staff recommends DA database access be priced ICB until SWBT can make an estimate of the forward looking cost.

Branding/Rating

- Staff recommends that the lowest intercompany compensation arrangement currently in effect be used for the price for both of these services.

Simple Service Conversion - Resale

- The rates for simple service conversion should be the service conversion rates specified in TO-97-40/67: $5.00 per conversion for an as is conversion.

Complex Service Conversion Charge - Resale

- For Complex Service Conversion orders, Staff assumes that all Complex conversions will require manual intervention. Since both AT&T and SWBT rely on SME estimates of labor times to process orders, and neither party has solid evidence to support their side, Staff recommends cutting SWBT's labor rates in half and removing inflation from the cost study.

Unbundled Service Order - UNEs

Simple

- -These UNE conversions are considered to be automated.
- -Remove negotiation cost (only time for typing remains).
- -Use fallout factor of 0.05.
- -All other applicable global modifications.

Complex

- -These UNE conversions are considered to require manual intervention.
- -Negotiation costs cut in half -- these remain, however, the CLEC will have done most of the work to identify what the needs are for the service requested.
- -Typing costs cut by 75% to 15 minutes since the CLEC will have done most of the work.
- -CPU/EXCP costs cut in half to be consistent.
- -All other global modifications.

Dark Fiber

- Global modifications.
- NRCs cut in half.

NXX Migration

- Neither side has presented an effective argument to justify that there is a substantial cost associated with NXX migration or that all costs will be recovered internally through migrating a NXX. Staff recommends making any applicable global modifications and cutting the rate in half.

White Pages

- Include 4 rate zones instead of three for consistency with other modifications.
- Staff does not recommend modifying the cost studies beyond applicable global modifications.

LSP Emergency Contact

- Any applicable global modifications.

Other Issues

- Staff agrees with SWBT on the issues related to costs associated for DCS access and multiplexing. However, Staff does not agree with SWBT's proposed costs for reasons described in this report and in the Costing and Pricing Report for Case No. TO-97-40/67. Staff recommends SWBT alter its dedicated transport cost studies with all applicable modifications described in TO-97-40/67.

Plexar Custom

- Contracts were provided for Staff's review.

Service Order Clarification

Staff believes it would be useful to the parties if the Commission clarified the application of service order charges. Staff offers the following scenarios as to how the service orders charges should apply.

1. As is UNE conversion -- Loop and line side port combination only

	Recurring	**NRC**
2-wire analog Loop Recurring (Group A)	$33.29	
Port Recurring	$2.47	
As is conversion charge		$5.00
Total	**$35.76**	**$5.00**

Local switching/tandem switching charges apply and are dependent upon MOU.

2. New service -- loop, line side port, and cross connect to CLEC collocated equipment with call waiting

	Recurring	**NRC**
2-wire analog Loop Recurring (Group C)	$18.23	$26.07
2-wire analog line side port Recurring	$2.25	$39.37
2-wire analog crossconnect w/o testing	$0.31	$19.96
Call Waiting		$ 0.18
New Service Charge		$ 2.11
Total	**$20.79**	**$87.69**

Local switching/tandem switching charges apply and are dependent upon MOU.

3. Customer currently has service through facilities and requests call waiting, caller ID, and call forwarding combination.

	Recurring	**NRC**
Feature activation charge for combination		$0.18(Staff estimate)
Customer change charge		$2.09
Total		**$2.27**

4. Total Services Resale - residential - as-is conversion -- 19.2 percent discount

	Recurring	**NRC**
Rate Group A	$6.11	
Conversion Charge		$5.00
Total	**$6.11**	**$5.00**
Rate Group D, MCA-2	$10.10	
Conversion Charge		$5.00
Total	**$10.10**	**$5.00**

Under resale service, tariffed rates less the 19.2 percent discount apply.

5. As is UNE conversion -- Loop and line side port combination -- customer requests call waiting.

	Recurring	NRC
2-wire analog Loop Recurring (Group A)	$33.29	
Port Recurring	$2.47	
Feature Activation -- Call waiting		$0.18
As is conversion charge		$5.00
Total	**$35.76**	**$5.18**

Local switching/tandem switching charges apply and are dependent upon MOU.

6. As is conversion -- 10 miles of DS-1 dedicated transport in Rate Group B

	Recurring	NRC
Dedicated transport, first mile	$86.96	
Additional miles	9 * $1.67	
Service Order charge		$54.29
Total	**$101.99**	**$54.29**

7. New service -- 10 miles of DS-1 dedicated transport in Rate Group B

	Recurring	NRC
Dedicated transport, first mile	$86.96	$184.84
Additional miles	9 * $1.67	$184 + 8*118.14
Service Order charge		$105.20
Total	**$101.99**	**$1,419.16**

SECTION II.
PROPOSED PRICES

This section contains proposed prices based on Staff modifications. Where SWBT was unable to produce a cost study in time for this report, SWBT has provided estimates of the impact to the costs.

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
Cross Connects											
4-Wire loop to Multiplexor with testing**			$11.54	$126.99	$86.84	$0.00			$9.41	$60.08	$41.08
4-Wire loop to Multiplexor without testing**									$1.06	$60.08	$41.08
Analog Loop to DCS - 2 wire*			$0.40	$100.53	$80.45	$0.00					
Analog Loop to DCS - 4 wire*			$0.79	$105.65	$85.57	$0.00					
Digital Loop to DCS - BRI*			$0.40	$100.53	$80.45	$0.00					
Digital Loop to DCS - PRI*			$11.54	$119.99	$100.94	$0.00					
Analog Loop to Switch Port - 2 wire*				$56.55	$47.94	$0.00					
Digital Loop to Switch Port - BRI*				$64.64	$56.85	$0.00					
Ditial Loop to Switch Port - PRI with test equipment			$11.54	$106.76	$98.98	$0.00					
Ditial Loop to Switch Port - PRI without test equipment			$1.14	$106.76	$98.98	$0.00					
* Does not include test equipment.											
SS7 Links Crossconnects											
STP to Collocators Cage DS0			$74.06	$235.14	$202.42	$0.00					
STP to Collocators Cage DS1			$53.55	$207.13	$174.41	$0.00					
STP to SWB Trunk Distributing Frame			$74.06	$235.14	$202.42	$0.00					
STP to SWB DSX Frame			$53.55	$207.13	$174.41	$0.00					
Dark Fiber Cross Connect**			$5.47	$85.03	$56.81	none			$2.15	$40.23	$26.88
Cross Connect price from 4/13/98 response.											
Dark Fiber Records Research											
Interoffice Darkfiber				$195.24	$38.29						
Subloop feeder				$648.61	$88.02						
Dark Fiber -- Interoffice				$195.24	$38.29					$97.62	$19.15

** Staff's proposed prices are estimates.

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
Unbundled Dedicated Transport											
DCS**											
DCS Establishment Charge					$2,043.38	$0.00					
Database Modfication Charge					$92.00	$0.00					
DCS Arrangement						$0.00					
Channel Port			$13.70		$20.87	$0.00			$11.19		$9.87
DS-1			$43.86		$30.67	$0.00			$35.84		$14.51
DS-3			$307.07		$30.67	$0.00			$250.85		$14.51
Reconfiguration Charge					$1.05	$0.00					
Multiplexing**											
DS-1 to Voice Grade			$199.59	$25.61	$15.37	$0.00			$162.74	$12.12	$7.27
DS-3 to DS-1			$712.06	$841.59	$793.45	$0.00			$580.60	$398.14	$375.37
Other forms			ICB			$0.00			ICB		
Cross Connects**											
DS-1 with testing			$11.54	$16.99	$86.84	$0.00			$9.41		
DS-1 without testing									$1.06		
DS-3 (see TO-97-40/63 arbitration order)						$0.00			$30.08	$50.60	$40.59
OC3			ICB			$0.00			ICB		
OC12			ICB			$0.00			ICB		
OC48			ICB			$0.00			ICB		

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
Unbundled Dedicated Transport											
Entrance Facilities											
DS1	Zone 1	Group D	$163.27	$273.26	$107.87	$0.00			$101.18	$129.27	$51.03
	Zone 2	Group B	$148.07	$273.26	$107.87	$0.00			$106.06	$129.27	$51.03
	Zone 3	Group A	$131.13	$273.26	$107.87	$0.00			$107.89	$129.27	$51.03
	Zone 4	Group C				$0.00			$101.39	$129.27	$51.04
DS3	Zone 1	Group D	$1,418.76	$451.48	$200.74	$0.00			$1,039.74	$213.59	$94.97
	Zone 2	Group B	$1,376.91	$451.48	$200.74	$0.00			$1,103.40	$213.59	$94.97
	Zone 3	Group A	$1,310.96	$451.48	$200.74	$0.00			$1,029.92	$213.59	$94.97
	Zone 4	Group C				$0.00			$1,039.74	$213.59	$94.97
OC3			ICB			$0.00			ICB		
OC12			ICB			$0.00			ICB		

** Staff's proposed prices are estimates.

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	NRCs First	NRCs Additional	AT&T Proposed Price	NRCs First	NRCs Additional	Staff Proposed Price	NRCs First	NRCs Additional
BRI Port Features*											
Basic EKTS Feature Package Per B Channel					$11.56		$0.21			$0.18	
CACH EKTS Feature Package Per B Channel					$15.26		$0.21				
PRI Port Features*											
Dynamic Channel Allocation, per PRI					$10.24		$0.21			$4.84	
Calling Number Delivery, per PRI					$0.00					$0.00	
Back-up D Channel, per PRI					$61.43		$0.21			$29.06	
BRI CSV/CSD*											
Functionality per BRI					$11.56		$0.21			$0.18	
Local Switching Features											
Standard Features -- Analog line port											
Call Waiting					$2.27		$0.21			$0.18	
Call Forwarding Variable					$2.27		$0.21			$0.18	
Call Forwarding - Busy Line					$2.27		$0.21			$0.18	
Call Forwarding - Don't answer					$2.27		$0.21			$0.18	
Three-way calling					$2.27		$0.21			$0.18	
Speed Dialing - 8					$2.27		$0.21			$0.18	
Speed Dialing - 30					$2.27		$0.21			$0.18	
Automatic callback					$2.27		$0.21			$0.18	
Selective Call Rejection					$2.27		$0.21			$0.18	
Automatic recall/call return					$2.27		$0.21			$0.18	
Customer Originated call trace					$2.27		$0.21			$0.18	
Selective call forwarding					$2.27		$0.21			$0.18	
Distintive ringing/priority call					$2.27		$0.21			$0.18	
Calling Number Delivery/Caller ID					$2.27		$0.21			$0.18	

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	NRCs First	NRCs Additional	AT&T Proposed Price	NRCs First	NRCs Additional	Staff Proposed Price	NRCs First	NRCs Additional
Calling Name Delivery/Caller ID					$2.27		$0.21			$0.18	
Calling number/Name delivery block					$2.27		$0.21			$0.18	
Anonymous call rejection					$2.27		$0.21			$0.18	
Hunting arrangements					$28.30		$0.21			$0.75	
Personalized Ring/Teen Service					$5.44		$0.21			$0.18	
Combinations of features (hunting arrangement applies separately)										$0.18	
Standard Features -- Centrex Like Offering											
Automatic callback calling/business group auto callback					$5.29		$0.21			$0.18	
Call forwarding variable/business group call forwarding var.					$5.29		$0.21			$0.18	
Call Forwarding - Busy Line					$5.29		$0.21			$0.18	
Call Forwarding - Don't answer					$5.29		$0.21			$0.18	
Call hold					$5.29		$0.21			$0.18	
Call Pickup					$5.29		$0.21			$0.18	
Call transfer all calls					$5.29		$0.21			$0.18	
Call waiting-intragroup/business group call waiting					$5.29		$0.21			$0.18	
Call waiting-originating					$5.29		$0.21			$0.18	
Call waiting-terminating					$5.29		$0.21			$0.18	
Cancel call waiting					$5.29		$0.21			$0.18	
Class of service restriction-fully restricted sta					$5.29		$0.21			$0.18	
Class of service restriction-semi restricted sta					$5.29		$0.21			$0.18	
Class of service restriction-toll restricted sta					$5.29		$0.21			$0.18	
Consultation hold					$5.29		$0.21			$0.18	
Dial call waiting					$5.29		$0.21			$0.18	
Directed call pickup-with barge-in					$5.29		$0.21			$0.18	
Directed call pickup-without barge-in					$5.29		$0.21			$0.18	
Distinctive ringing & call waiting tone					$5.29		$0.21			$0.18	
Hunting arrangments					$5.29		$0.21			$0.75	
Speed calling personal (short list)/speed calling personal					$5.29		$0.21			$0.18	

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	NRCs First	NRCs Additional	AT&T Proposed Price	NRCs First	NRCs Additional	Staff Proposed Price	NRCs First	NRCs Additional
Three-way calling					$5.29		$0.21			$0.18	
Voice/data protection					$5.29		$0.21			$0.18	
Call Trace Activation, per port, per successful occurence					$5.74		$0.21			$0.18	
Unbundled Local Switching Centrex Like Features											
Analog											
Standard feature initialization per analog line port					$4.63		$0.21			$0.18	
Automatic call back calling					$5.29		$0.21			$0.18	
Call hold					$5.29		$0.21			$0.18	
Call transfer - all calls					$5.29		$0.21			$0.18	
Call forwarding - variable					$5.29		$0.21			$0.18	
Call forwarding - busy line					$5.29		$0.21			$0.18	
Call forwarding - Don't Answer					$5.29		$0.21			$0.18	
Call pickup					$5.29		$0.21			$0.18	
Call waiting - intragroup					$5.29		$0.21			$0.18	
Call waiting - originating					$5.29		$0.21			$0.18	
Call waiting - terminating					$5.29		$0.21			$0.18	
Class of service restriction - toll restriction					$5.29		$0.21			$0.18	
Speed calling-personal					$5.29		$0.21			$0.18	
Dial call waiting					$5.29		$0.21			$0.18	
Distinctive ringing & call waiting tone					$5.29		$0.21			$0.18	
Directed call pickup - non-barge in					$5.29		$0.21			$0.18	
Directed call pickup - barge in					$5.29		$0.21			$0.18	
Hunting basic					$5.29		$0.21			$0.75	
Circular hunting					$5.29		$0.21			$0.75	
Voice data protection					$5.29		$0.21			$0.18	
Class of service restriction - semi-restricted					$5.29		$0.21			$0.18	
Class of service restriction - fully-restricted					$5.29		$0.21			$0.18	

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
Consultation hold					$5.29		$0.21			$0.18	
Three way calling					$5.29		$0.21			$0.18	
ISDN											
Standard feature package, per device					$4.63		$0.21			$0.18	
Additional call offering for CSV					$5.29		$0.21			$0.18	
Automatic call back calling					$5.29		$0.21			$0.18	
Call forwarding - variable					$5.29		$0.21			$0.18	
Call forwarding - busy line					$5.29		$0.21			$0.18	
Call forwarding - Don't Answer					$5.29		$0.21			$0.18	
Call hold					$5.29		$0.21			$0.18	
Call pickup					$5.29		$0.21			$0.18	
Call transfer - all calls					$5.29		$0.21			$0.18	
Class of service restriction - fully-restricted					$5.29		$0.21			$0.18	
Class of service restriction - semi-restricted					$5.29		$0.21			$0.18	
Class of service restriction - toll restriction					$5.29		$0.21			$0.18	
Consultation hold					$5.29		$0.21			$0.18	
Directed call pickup - non-barge in					$5.29		$0.21			$0.18	
Directed call pickup - barge in					$5.29		$0.21			$0.18	
Distinctive ringing					$5.29		$0.21			$0.18	
Hunting - basic					$5.29		$0.21			$0.75	
Circular hunting					$5.29		$0.21			$0.75	
Speed dialing personal					$5.29		$0.21			$0.18	
Three-way calling					$5.29		$0.21			$0.18	
CSV/CSD, per BRI, per channel					$11.56		$0.21			$0.18	
System Charges											
System Initial Establishment per Serving Office - Analog				$803.36	$244.60					$380.06	$115.72
System Initial Establishment per Serving Office - Analog/ISDN-BRI mix				$803.36	$284.93					$380.06	$134.80

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
System Initial Establishment per Serving Office - ISDN-BRI				$391.04	$284.93					$184.99	$134.80
System Conversion per Serving Office - Add Analog to ISDN-BRI only				na	$586.31					na	$277.37
System Conversion per Serving Office - Add ISDN-BRI to Analog only				na	$293.55					na	$138.87

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
Branding						none			Lowest intercompany compensation agreement		
Cost per call			$0.02								
Intial Load - resale			$2,325.00								
Subsequent load -resale			$2,325.00								
Rating						none			Lowest intercompany compensation agreement		
Rate per initial load			$3,650.00								
Rate per subsequent load			$2,650.00								
Rate per subsequent reference change			$2,650.00								

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
White Pages for Others By Geographic Groups											
Cost for being in White Pages Directory, per listing	Group 1		$0.6137						$0.5269		
	Group 2		$0.1400						$0.1202		
	Group 3		$0.1157						$0.0993		
	Group 4										
One time cost to enter and delete listing	Group 1		$0.35						$0.30		
	Group 2		$0.35						$0.30		
	Group 3		$0.35						$0.30		
	Group 4										
Cost for being in directory per book copy-initial delivery	Group 1		$4.22						$3.62		
	Group 2		$1.21						$1.04		
	Group 3		$1.04						$0.89		
	Group 4										
Cost for being in a directory per book copy-subsequent delivery	Group 1		$6.13						$5.26		
	Group 2		$2.35						$2.02		
	Group 3		$2.49						$2.14		
	Group 4										
Additive elements to above options											
Cost per page per year any one book	Group 1		$3,019.89						$2,592.85		
	Group 2		$159.04						$136.55		
	Group 3		$71.52						$61.41		
Directory Assistance Listing (DAL)											
Initial load									$0.0036		
Daily update									$0.0045		
LSP emergency contact for non-published service, per call			$1.6888						$1.4500		

Staff's proposed prices are estimates.

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
LSP Complex Service conversion - resale				$114.76						$54.29	
LSP Simple Service Conversion - resale				$21.85						$5.00	
UNE Conversion charges											
Simple											
New Service Order				$60.00		$0.21				$2.11	
Change Order*				$58.00		$0.21				$2.09	
Record Order**				$36.00		$0.21				$1.26	
Disconnect Order				$30.00		$0.21				$1.29	
Complex											
New Service Order				$245.00		$0.21				$105.20	
Change Order*				$136.00		$0.21				$54.94	
Record Order**				$114.00		$0.21				$53.88	
Disconnect Order				$65.00		$0.21				$31.63	
NXX Migration				$12,939.26		none				$6,121.33	
Access to Directory Assistance Database				ICB					ICB		

*Also applies to Expedited, Customer not Ready, Due Date Cancel/Change orders.

**Also applies to Suspend/Restore orders.

Element	Rate Zone	Tariffed Rate Group	SWBT Proposed Price	SWBT NRCs First	SWBT NRCs Additional	AT&T Proposed Price	AT&T NRCs First	AT&T NRCs Additional	Staff Proposed Price	Staff NRCs First	Staff NRCs Additional
Line Information Data Base (LIDB)											
LIDB Validation Query											
LIDB Query Cost			$0.0003856								
LIDB Service Order				$217.10						$102.71	
CNAM Query									$0.0002606		
SMS for LIDB											
Cost per query			$0.000284								
Manual update - initial per record updated			$0.5311								
Manual update - ongoing, per record updated			$0.0367								
SLEUTH											
Cost per query			$0.005229								

Staff's proposed prices are estimates.

SECTION III.
SUMMARY OF SWBT COST STUDIES

Crossconnects

Under the cost review in TO-98-115, SWBT and AT&T request the review of costs for Unbundled Crossconnects to DCS and Switch Ports and costs for Unbundled 4-wired DS-1 Loop to Multiplexer. Signaling crossconnects connect the CLEC to the SS7 STP.

Crossconnect to DCS and Switch Ports

This cost study identifies the costs for unbundled crossconnects to Digital Crossconnect System and Switch Ports. Recurring and NRCs were identified for 2-wire and 4-wire analog loops to DCS, BRI and PRI digital loops to the DCS, 2-wire analog loops to switch ports, BRI digital loops to switch ports, and PRI digital loops to switch ports (with and without test equipment). Only the digital loop to switch port-BRI with test equipment includes testing; all other elements do not include testing. The costs consist of transmission equipment required to connect the SWBT main distribution frame (MDF) to interconnector designated equipment. Recurring costs include the cost of intermediate distribution frame (IDF) arrangements and circuit equipment. For formulas used in determining cost of the equipment, see the section on Crossconnects in the July 31, 1997 Arbitration Order in Case No. TO-97-40/63. These investments are then fed into ACES to obtain monthly recurring cost. NRCs include labor and labor rates for installation and disconnection activity.

4-Wire DS1 Loop Crossconnect to Multiplexer

The Unbundled 4-Wire DS1 Loop Crossconnect to Multiplexer cost study identifies the recurring and non-recurring costs for the crossconnect equipment to connect the SWBT MDF to a multiplexer. The equipment consists of circuit equipment used for the crossconnect. NRCs consist of the labor time and labor rate to install and disconnect the crossconnect.

CLEC to SS7 STP

The Unbundled CLEC to SS7 STP cost study identifies the recurring and non-recurring costs associated with providing a crossconnect from a CLEC to a local Signaling System 7 (SS7) Signal Transfer Point (STP). The crossconnect is a full time dedicated signaling channel for digital transmission speed of 56Kbps. SWBT identifies links from STPs to Collocator's Cages via DS0 and DS1, to SWBT Trunk Distributing Frames, and to SWBT DSX Frames.

The recurring costs are based on Service Area Function (SAF) investments. SAF investments represent the equipment needed to meet technical parameters of the service. The Network Circuit Provisioning Organization develops SAF design cases representing standard transmission equipment configurations. Investments for the equipment in each design case are identified and converted to a per channel value that is adjusted to utilization. The SAF program sums the unit investment of each equipment item within

each kilofoot band. The investments are multiplied by the probability of that kilofoot band and are summed to determine the weighted investment by design case. SAF equipment requires support from building and power plant. Factors are developed and applied to the SAF investments to determine the supporting investment values. Investments by account code are then multiplied by annual cost to determine annual cost of each investment category and summed by location.

Non-recurring costs represent the time required to install and disconnect LSP links. Labor time for performing these services is multiplied times the appropriate labor rates.

Modifications

Unbundled 4-wire DS-1 Loop Cross-Connect to Multiplexer

1. Global modifications.

Unbundled Crossconnects to DCS and Switch Ports

2. Global modifications.

CLEC to SS7 STP

3. Global modifications.

Local Switching Features

Summary

The purpose of the Unbundled Local Switching Features cost study is to identify the long run incremental NRC associated with providing standard features to CLECs commonly available through Analog Line Ports and ISDN-BRI ports. The standard features for Analog Line Side Port are:

Call Waiting
Call Forwarding-Variable
Call Forwarding-Busy Line
Call Forwarding-Don't Answer
Three-way Calling
Speed Dialing-8
Speed Dialing-30
Residence Distinctive Alerting/
Teen Service/Personalized Ring
Automatic Callback
Selective Call Rejection
Automatic Recall/Call Return
Customer Originated Call Trace
Selective Call Forwarding
Distinctive Ringing/Priority Call
Calling Number Delivery/Caller ID
Calling Name Delivery/Caller ID
Calling Number/
Name Delivery Block
Anonymous Call Rejection
Hunting Arrangements.

The study includes the NRCs associated with the system data processing and the labor effort necessary to provide the standard features. SWBT assumes the data process and labor expense would be the same except for Personalized Ring and Hunting Arrangements. Because of the differences in labor, costs were developed separately for Standard Features, Personalized Ring, Hunting Arrangements, and Standard Features for Centrex-like Offering-Analog and ISDN. The Centrex-like offering costs are used in the Unbundled Local Switching-Centrex-like Features Cost Study.

The costs included in this study are for the Local Service Provider Service Center (LSPSC), Directory-White Pages, Recent Change Memory Administration Center (RCMAC), and MARCH Data Processing. Non-recurring LSPSC costs are for the service representatives' labor expense while typing and reviewing orders for distribution. Non-recurring Directory-White Pages costs are for the labor and data processing expenses associated with the insertion or deletion of a listing in the White Pages Directory for the Personalized Ring feature. Non-recurring RCMAC costs include the Line Translation Specialist's labor expense associated with providing Hunting Arrangements. Tasks include reviewing customer requests and manually creating recent change memory translations. Data processing costs identified include the CPU costs associated with mechanical translations of an order via the MARCH system. Costs applicable to each feature were summed and a Commission assessment was applied to obtain total cost.

Modifications

In Case No. TO-97-40/67, the $5.00 service order charge applied to as is

conversions only. No consideration was given to subsequent orders or additional features at the time of conversion. In the December 23, 1997 Order in Case No. TO-98-115, the Commission "disagreed with the Special Master's recommendation that the Commission foreclosed the possibility of SWBT assessing non-recurring charges for a CLEC Simple Conversion when it issued its July 31 order in TO-97-40. The Commission's November 5 order approving the interconnection agreement submitted in that case clearly left open the possibility that non-recurring charges could be established." The Commission found that Staff should review SWBT's cost studies to determine what NRCs apply to Simple Conversion orders.

Staff believes the Commission should clarify the application of service order charges. After reviewing SWBT's cost studies, Staff believes that there are separate charges necessary to complete a service order and to provision UNEs. Staff recommends that for a simple conversion of a customer that is currently receiving service and requests no additional features or services, the $5.00 service order charge, plus the recurring charges for the UNE(s) apply. Staff believes that for as is conversions where additional features are ordered, the $5.00 service order charge, plus feature activation charges, plus UNE recurring charges apply. For subsequent orders, or new service, as described in the Unbundled Service Order section, the appropriate service order charge, plus any UNE related charges should apply.

SWBT submitted its cost studies for review and Staff found several areas that raise concern. Staff recommends the below modifications be made. The logic behind these modifications apply to all service orders Staff considers to be completed on a mechanized basis[1]:

1. Staff proposes that the feature activation charges apply in addition to the as is conversion charge or other simple service order charges. For example, if a CLEC orders a customer be converted as is, the $5.00 service order charge would apply. If a CLEC orders a customer be converted with additional features, the $5.00 service order charge would apply along with applicable feature activation charges.

---

[1] Staff considers simple service orders and all feature activation charges for analog, ISDN-BRI, and centrex-like features to be completed on a mechanized basis. SWBT contends it does not currently have a mechanized procedure to activate features for all of these services. AT&T contends that all service orders should be completed on a mechanized basis. Staff believes that the technology is present now to permit mechanized service orders and will be implemented on a forward looking basis. Complex orders and orders for features for ISDN-PRI are not considered to be completed on a mechanized basis, but will be completed on a manual basis. Staff admits orders for complex services may be done on a mechanized basis in the future, but there will still be a need for manual intervention in complex service provision to ensure parity service.

If a CLEC is currently serving a customer and the customer request additional features, the change order charge (See UNE Service Orders section) would apply along with the feature activation charge. For further examples, see Service Order Clarification in Section II.

2. SWBT proposes using **___** minutes for standard features, personalized ring, hunting arrangement features, and centrex like features. All of these times are based upon SME estimates. AT&T believes any service order requires only minimal computer processing to complete. From SWBT's OSS demonstrations, Staff believes that service orders for non-complex services without errors will flow from system to system to completion with no problems.

Because of the flowthru inherent with SWBT's OSS, Staff believes there is no difference between activation of different local switching features. When a customer requests feature changes to his service, the telephone company simply makes a class of service change. Assuming the telephone company (or the switch vendor) has already programmed its switch for features, very little labor effort is required on the part of a service representative. The service representative simply obtains the customer record from a database, and changes the class of service to match the features desired by the customer. For all features, this requires a few keystrokes on a computer keyboard. Staff does not believe there is evidence to suggest there needs to be different times for different features, so Staff recommends an average of SWBT's SME estimates, which is 5 minutes, be applied to all features.

SWBT believes that there are different costs associated with different types of features. Staff disagrees. The extra costs for personalized ring associated with directory updates will be recovered through the costs associated with creating the directory. The CLEC will pay for the extra listing through adding its customer's new number to the directory assistance listing.

Extra costs for hunting arrangements are based on the labor for RCMAC programming. Staff believes there may be more work involved in setting up a hunting arrangement since the hunting sequence of numbers will need to be programmed. Therefore, a difference in cost for hunting arrangements compared to other features is justified. However, the problem of labor times being based on SME estimates still remains. Since these estimates are based on SME input with no evidence, Staff recommends the RCMAC time required to program a hunting arrangement be cut in half. Thus, the rate for hunting arrangements is based on the labor for the LSPSC and half of RCMAC's labor, and MARCH CPU time.

There is no difference between activating standard features or centrex-like features. The extra costs for centrex-like features are not necessary since the effort

HC

to change features for centrex-like features is the same for a central office switch. SWBT contends the cost for centrex-like features is greater because the method of ordering centrex-like features is not automated like analog port features. Staff believes that, on a forward looking basis, simple feature activations will be done on an automated basis. Because SWBT does not currently utilize a fully automated service order process, it does not mean they will not have an automated process on a forward looking basis.

3. SWBT assumes that all feature activations require manual intervention. SWBT has presented in its OSS demonstrations that
-95.6 percent of all orders flow through its ConsumerEASE system to SORD distribution,
-92.7 percent of all orders flow from ConsumerEASE to completion, and
-84.9 percent of all orders flow rom ConsumerEASE to posting.

AT&T proposes that only 1-2 percent of orders will require manual intervention, or a 98-99 percent flowthru. The extent to which the flowthru will reach AT&T's proposal is not known. Staff believes the flowthru for local switching feature activation will approach 100 percent because of the minimal effort required by the CLEC. The effort necessary to make feature changes is not as complex as that for new service orders, so there is much less chance for error. Staff believes from speaking with AT&T and SWBT officials that there will be some fallout of orders for orders other than feature activation. Staff believes that this fallout will be about 5 percent. The remaining 95 percent of orders done on a mechanized basis will flow through SWBT's OSS to being fully completed without need for manual intervention.

Because of the automation of the service order systems, Staff recommends SWBT implement a 0.05 flowthru factor in **all** of its service order cost studies for which the order may be completed on a mechanized basis. The 5 percent flowthru factor is based on the forward looking assumption that the OSS is new and that all parties are learning about its limitations. As time progresses, SWBT will learn the OSS' limits and make changes. CLECs will learn more about the OSS and how to enter orders to minimize the need for manual intervention. In addition, in a competitive forward looking environment, companies competing for customers will make every effort to minimize problems with service orders to avoid losing customers. Thus, the fall out of orders will become minimal.

The flowthru factor is based on 5 percent of orders needing manual intervention. The cost for manual intervention will be recovered across all orders, but at a fraction of the cost SWBT proposes for a manual service order. Staff recommends that SWBT multiply its costs times 0.05 to account for the flow through.

4. Staff recommends that these charges apply to combinations of features as well since no additional labor effort is necessary to add one feature versus multiple features. When programming features in a switch, each feature is assigned a class of service and each combination of features is assigned a class of service. For example, caller ID may be class of service 1, call waiting may be class of service 2, and the combination may be class of service 3. If a customer wants to have the combination, the service representative simply changes the class of service with no difference in labor between selecting class of service 1 versus class of service 3. Therefore, Staff recommends a single charge for combinations of local switching features.

5. In a forward looking environment, the customer will notify the CLEC of needed features, and the CLEC will make changes to the customer's class of service without involvement from SWBT. Staff recommends that SWBT develop an OSS system that allows a CLEC customer service representative to access his customer records and make changes without SWBT's intervention.

Please see the following table for Staff's methodology.

Local Switching Features Cost Study

		SWBT	AT&T	Staff
Service Rep Standard Feature Time		**_**		0.0835
Service Rep Personalized Ring		**_**		0.0835
Service Rep Hunting Arrangment		**_**		0.0835
Service Rep Centrex Like offering		**_**		0.0835
Hourly Rate	$	**_**		**_**
Inflation		**_**		-
Fall out rate		1		0.05
Commission Assessment		**_**		**_**
MARCH CPU cost for all features	$	**_**		**_**
RCMAC Cost for Hunting Arrangments	$	**_**	$	11.48
Directory Cost per Order -- personalized ring	$	**_**		-
Standard Feature		**_**	**$ 0.21**	**$ 0.18**
Personalized Ring		**_**	**$ 0.21**	**$ 0.18**
Hunting Arrangement		**_**	**$ 0.21**	**$ 0.75**
Centrex Like Offering		**_**	**$ 0.21**	**$ 0.18**

Features for which these costs apply:

Call Waiting	Selective Call Rejection
Call Forwarding-Variable	Automatic Recall/Call Return
Call Forwarding-Busy Line	Customer Originated Call Trace
Call Forwarding-Don't Answer	Selective Call Forwarding
Three-way Calling	Distinctive Ringing/Priority Call
Speed Dialing-8	Calling Number Delivery/Caller ID
Speed Dialing-30	Calling Name Delivery/Caller ID
Residence Distinctive Alerting/	Calling Number/Name Delivery Block
Teen Service/Personalized Ring	Anonymous Call Rejection
Automatic Callback	Hunting Arrangements.

Centrex Like Features

System Charge	Distinctive Ringing & Call Waiting Tone
Network Sales Support Charge	Directed Call Pick-Up - Non Barge-In
Subsequent System Change Charge	Directed Call Pick-Up with Barge-In
Automatic Callback Calling	Hunting Basic
Call Hold	Circular Hunting
Call Forwarding-Busy Line	Voice Data Protection
Call Forwarding-Don't Answer	Class of Service Restriction - Semi-restricted
Call Forwarding-Variable	Class of Service Restriction - Fully restricted
Call Pick-Up	Three Way Calling
Call Waiting-Intragroup	CSV/CSD per BRI
Call Waiting-Originating	Additional offering for CSV
Call Waiting-Terminating	Call Transfer-All Calls
Class of Service Restriction-Toll Restriction	Class of Service Restriction-Toll Restricted
Consultation Hold	Dial Call Waiting
Speed Calling-Personal	

HC

Unbundled Call Trace Per Activation

Summary

This cost study identifies the nonrecurring cost associated with the processing of call trace activation. Call trace allows the subscriber to initiate action against threatening, obscene, or harassing telephone calls. When a subscriber initiates a call trace, they will receive an announcement confirming the trace was successful, that the trace could not be completed, or that the call came from outside the network. If the trace is successful, the announcement also gives the subscriber information on keeping a personal log of calls and how to pursue legal action against the caller. The name and number of the trace is not revealed to the subscriber. Information identifying the caller is recorded and kept in the SWBT Annoying and Anonymous Call Bureau, until at least three successful traces have established a pattern of harassment. The information is then given to law enforcement. The A&A Bureau contacts the customer after the first and third call trace activations.

The NRC is based upon the average labor for the time to process the activation on a per occurrence basis, set up the trace, and send a warning letter. SWBT estimates the labor to be **__** minutes per activation. The estimated labor hours are multiplied by the cost of labor. The hourly rate for call trace activation is **___**. An operating expense inflation factor is applied to represent the planning period. A state commission assessment factor is applied to obtain the final cost.

Modifications

The problem with Call Trace Activation relates to labor estimates being based on SME's opinions. In meetings with SWBT officials, they indicated there may be a new cost study for call trace activation, which is based on an automated process. SWBT has indicated that an automated process has been implemented in Missouri. Therefore, Staff recommends that the cost be based on the automated process. Staff also does not believe there is a difference between Call Trace and other local switching features. Therefore, Staff recommends the rate be set at the rate of other port features. The rate should apply per port and per successful trace.

HC

Direct Inward Dialing

Summary

The Direct Inward Dialing (DID) cost study identifies the forward looking long run incremental cost for DID service 10 and 100 number blocks. DID allows an incoming call (not FX or WATS) to reach a specific PBX station line without attendant assistance. With DID, the switch seizes a DID trunk and outpulses the station line number to the PBX. If the called station's line is idle, the PBX alerts the called station and returns an audible ringing on the incoming connection. If the called station's line is busy, the PBX returns a busy tone. If the called station line is restricted from receiving terminating calls, the PBX routes the incoming call to an announcement, dial tone, or to the attendant.

The non-recurring labor hours to perform the switch and line translations for 10 and 100 number blocks were obtained from Network for the 5ESS, DSM100, DMS10, and AXE-10 switches. The labor hours were multiplied times the appropriate labor rate and weighted based on the total number of access lines in service for each technology. An inflation factor and commission assessment were applied to all costs.

NRCs are identified for establishing initial 10 and 100 number blocks and adding or removing 10 or 100 number blocks.

Modifications

This issue has been settled. Therefore no changes are recommended other than global modifications.

Unbundled PRI Port Features

Summary

The Unbundled Primary Rate Interface Port Features cost study describes the NRCs associated with providing ISDN-PRI port features of Dynamic Channel Allocation, Back-up D Channel, and Calling Number Delivery. PRI provides access for circuit switched voice and data communications. PRI technology is typically divided into twenty-three B channels and one D channel. The B channels provide voice and data communications while the D channel provides out-of-band signaling. Dynamic Channel Allocation allows the customer to designate on a call by call basis the B channels for either Direct Outward Dial or Direct Inward Dial services. Back-up D Channel provides enhanced continuity of service by allowing a D channel of one interface to automatically take over for a failed D channel of another interface in arrangements that include two or more interfaces. Calling Number Delivery allows the number of the calling party to be delivered to the called party.

The NRCs are obtained by multiplying the estimated labor hours for the translation work functions times the appropriate labor rate. A Commission assessment factor is then applied to the NRC. There are no nonrecurring costs for Calling Number Delivery because it is an inherent feature of the 5ESS ISDN switch. All costs are determined on a per PRI basis. The differences between Dynamic Channel allocation and Back-up D Channel are in the time required for translations. SWBT estimates the time for Dynamic Channel Allocation to be 0.08 hours while the average time required for Back-up D Channel is 0.5 hours.

The costs identified are for dynamic channel allocation and back-up D channel. Both costs are per PRI.

Modifications

Neither side presented an adequate argument since their inputs are based on SME estimates. Staff believes that port features for PRI are more involved than analog or BRI port features, so more time will be spent activating the features. PRI service is also more complex in nature than analog or BRI service. However, neither side has evidence to support its claims of the amount of labor required to complete a feature activation. Therefore, Staff recommends SWBT's rates be cut in half.

Unbundled BRI CSV/CSD

Summary

The Unbundled Basic Rate Interface Circuit Switched Voice/Circuit Switched Data cost study identifies the non-recurring translation costs for the BRI CSV/SCD functionality. A BRI unbundled port offers two 64Kbps B channels and one 16Kbps D channel. One or both B channels may be configured for circuit switching or packet switching. Calls over a B channel configured for circuit switching may be either voice or data. The D channel carries out-of-band signaling for the B channel and may also be configured for packet switching. The port, when configured for circuit switching, provides access to and from the Public Switched Telephone Network. Also, when configured for packet switching, the port provides access to SWBT's Public Packet Switched Network.

The NRC is developed on a per BRI basis. The cost is labor related and based on the estimated time the translation activity requires. Labor time is multiplied by the associated labor cost. Inflation and a Commission assessment are then applied to obtain total cost.

Modifications

Neither AT&T nor SWBT presented an adequate argument. The labor effort required to activate analog, ISDN-BRI, or Centrex-like features is the same for each type of service. The difference between the features is programming a line card in a central office. Any additional work required for ISDN service will be recovered through other UNEs, like the loop or port. Staff recommends that the time for BRI port features be treated as features for analog ports. For a description of the modifications, see the **Local Switching Features** cost study summary.

Unbundled BRI Port Features

Summary

The Unbundled Basic Rate Interface Port Features cost study identifies the NRC associated with Basic and Call Appearance Call Handling (CACH) Electronic Key Telephone System (EKTS) feature package translation activities. A BRI unbundled port offers two 64Kbps B channels and one 16Kbps D channel. One or both B channels may be configured for circuit switching or packet switching. Calls over a B channel configured for circuit switching may be either voice or data. The D channel carries out-of-band signaling for the B channel and may also be configured for packet switching. The port, when configured for circuit switching, provides access to and from the Public Switched Telephone Network. Also, when configured for packet switching, the port provides access to SWBT's Public Packet Switched Network.

The NRC is developed on a per BRI basis. The cost is labor related and based on the estimated time the translation activity requires. Labor time is multiplied by the associated labor cost. Inflation and a Commission assessment are then applied to obtain total cost.

Cost is determined for Basic EKTS feature package per B channel and CACH feature package per B channel. The difference is that the CACH feature package is estimated to take **__** hours while the Basic is estimated to take **__** hours. Both time estimates are from SMEs.

Modifications

Neither AT&T nor SWBT presented an adequate argument. The labor effort required to activate analog, ISDN-BRI, or Centrex-like features is the same for each type of service. The difference between the features is programming a line card in a central office. Any additional work required for ISDN service will be recovered through other UNEs, like the loop or port. Staff recommends that the time for BRI port features be treated as features for analog ports. For a description of the modifications, see the **Local Switching Features** cost study summary.

Unbundled Centrex-Like
Analog
ISDN

Summary

SWBT provides two cost studies for standard Centrex-like features depending upon the port: Analog and ISDN. The cost studies identify the NRCs for providing standard Centrex-like features for Analog or ISDN-BRI ports. SWBT identified the services in the table below as standard features.

Standard Centrex-Like Components for Analog and ISDN Ports

Service	Available to Analog Ports	Available to ISDN Ports
System Charge	yes	yes
Network Sales Support Charge	yes	yes
Subsequent System Change Charge	yes	yes
Automatic Callback Calling	yes	yes
Call Hold	yes	yes
Call Forwarding-Busy Line	yes	yes
Call Forwarding-Don't Answer	yes	yes
Call Forwarding-Variable	yes	yes
Call Pick-Up	yes	yes
Call Waiting-Intragroup	yes	no
Call Waiting-Originating	yes	no
Call Waiting-Terminating	yes	no
Class of Service Restriction-Toll Restriction	yes	yes
Consultation Hold	yes	yes
Speed Calling-Personal	yes	yes
Dial Call Waiting	yes	no
Distinctive Ringing & Call Waiting Tone	yes	Distinctive Ringing only

Directed Call Pick-Up - Non Barge-In	yes	yes
Directed Call Pick-Up with Barge-In	yes	yes
Hunting Basic	yes	yes
Circular Hunting	yes	yes
Voice Data Protection	yes	no
Class of Service Restriction - Semi-restricted	yes	yes
Class of Service Restriction - Fully restricted	yes	yes
Three Way Calling	yes	yes
CSV/CSD per BRI	no	yes
Additional offering for CSV	no	yes
Call Transfer-All Calls	no	yes
Class of Service Restriction-Toll Restricted	no	yes

The NRCs are based on the labor costs to perform the switch and line translations required to activate the features. For analog features, labor hours were identified for DMS10, DMS100, AXE, and 5ESS switches. For ISDN features, labor hours were identified for only the 5ESS switches. Labor hours were multiplied times appropriate labor rates. Inflation and a Commission assessment were applied to obtain total cost.

SWBT defines costs for features, lines, and system for analog ports and features, channels, devices, and systems for ISDN-BRI ports. To obtain a rates SWBT does the following:

For Analog or ISDN or Analog/ISDN mix centrex-like systems:
Initial Establishment Charge =
(Initial System Charge +
Standard Features Systems Costs +
Network Sales Support Charge +
Service Order Charge).

Subsequent Change Charge =
(Subsequent System Charge +
Standard Feature System Costs +

Network Sales Support Charge +
Service Order Charge).

Depending upon the system type, costs will vary. For analog/ISDN mix systems, SWBT applies Analog initial establishment costs for the initial setup and ISDN subsequent system costs for any subsequent system changes.

Conversion Charges:
Analog added to ISDN=

((Analog System Charge - ISDN System Charge) +
(Analog Standard Features Cost - ISDN Standard Features Cost) +
Network Sales Support Charge +
Service Order Charge)).

ISDN Added to Analog:

(ISDN System Charge +
Network Sales Support Charge +
Service Order Charge).

Conversion charges apply only to subsequent changes.

Modifications

1. Staff recommends that the rates for local switching features apply to the centrex-like features. The labor effort required to activate analog, ISDN-BRI, or Centrex-like features is the same for each type of service. For a description of the modifications recommended for the feature activation charges, see the **Local Switching Features** cost study summary.

Unbundled Dedicated Transport:
Entrance Facilities, Digital Cross-Connect System, Multiplexing, and DS-1 Cross Connect

Summary

The purpose of the Unbundled Dedicated Transport: Entrance Facilities, Digital Cross-Connect System (DCS), Multiplexing, and DS-1 Cross Connect cost study is to calculate the recurring and non-recurring costs associated with providing UNEs for dedicated transport. SWBT contends these UNEs were not covered in the dedicated transport cost study reviewed in Case No. TO-97-40/67. SWBT defines costs for the following elements

DS1 Entrance Facility--A transmission path between customer premises and the servicing CO that is equipped to provide a 1.544MBps digital capability. DS1 investments are capacity derived and based on an OC3 multiplexing system.
DS3 Entrance Facility---A transmission path between customer premises and the servicing CO that is equipped to provide a 45MBps digital capability. DS3 investments are capacity derived and based on an OC3 multiplexing system.
DCS--Costs associated with the DCS are designs associated with a 3/1 system.
Multiplexing DS1 to VG--Accomplished through a D4 channel bank. The D4 is equipped with the necessary common plugs, DS1 entrance plug and VG plugs to multiplex a single DS1 transmission to 24 VG signals.
Multiplexing DS3 to DS1--Accomplished through the use of a single 45MBps multiplexer capable of multiplexing a single DS3 transmission to 28 DS1 signals. The multiplexer is equipped with common plugs, single DS3 high side plug and 28 DS1 low side plugs.
DS1 Crossconnect--Costs include the recurring and non-recurring costs associated with providing a DS1 crossconnect arrangement to and from interconnector designated equipment.

Recurring costs for Entrance Facilities are based on forward looking fiber based network designs obtained from the Long Range Planning Network Organization. The entrance facilities are based on a sample consisting of all types of loops provided by SWBT. The sample is segregated into Rural, Suburban, and Urban groups and is based on the CO by rate group from the current local exchange tariff. Investments for each element are based on 1996 cable broadgauge costs and multiplexing equipment investments provided by the Procurement Organization. Forward looking annual cost factors are used in calculating the monthly recurring costs. COSTPROG and ACES are the models used in determining cost.

The DCS includes charges for establishment, database modification, arrangement, reconfiguration (customer performed), plus the DS1 and DS3 channel port.

Monthly recurring multiplexing costs are derived from calculations that apply an annual cost factor to the appropriate investment for each multiplexer type. Results are divided by 12 to obtain monthly cost.

Costs for the DS1 crossconnect element represent the cost of equipment required to meet the technical parameters of crossconnect element. The designs consist of transmission equipment. Equipment investment is loaded into ACES where cost is derived.

Non-recurring charges are also determined for the elements. The NRCs are based on providing crossconnect arrangements to and from designated equipment. The NRCs include installation and disconnection activity, but do not include costs associated with maintaining or repairing service. NRCs were identified by determining workgroups involved in the installation and disconnection processes for each element. Job functions and labor times for the functions were identified. The labor times were then multiplied times appropriate labor rates for installation and disconnection.

Modifications

1. Costs for UNEs comprising dedicated transport were reviewed in TO-97-40. AT&T contends that entrance facilities are included in other costs for dedicated transport. SWBT contends that it has unbundled entrance facilities and found a cost for those UNEs. In Case No. TO-97-40, Staff found that there are costs for entrance facilities and recommended the following:

   Any changes to the Loopvest model must be reflected in the entrance facility cost studies. Entrance facilities are part of the interoffice transport. Cost studies for entrance facilities were included in the Dedicated Transport cost studies SWBT submitted.

   Specifically, Staff recommended the use of loop samples specific to DS1 and DS3, which are the two entrance facility types SWBT determined costs for. AT&T wants specified costs for OC3 and OC12 entrance facilities, however, SWBT proposes these be ICB priced. Since SWBT does not have any OC3 or OC12 Sonet facilities in Missouri, Staff believes an accurate cost study could not be created. Therefore, Staff recommends that OC3 and OC12 entrance facilities be priced ICB until SWBT has enough OC3 or OC12 entrance facilities to produce an accurate cost study.

2. All other global changes from TO-97-40/67: Cost of Capital should be 10.36%, depreciation lives should be Commission set lives from TO-97-40/67, Income tax should be 38.36%, there should be no application of inflation, removal of CC/BC ratio from the numerator and denominator of the Building factor, historic building and grounds maintenance to be consistent with changing the building factor. All

of these modifications were approved in TO-97-40/67.

3. NRCs should be cut in half to be consistent with the treatment of other UNEs in TO-97-40.

4. AT&T desires costs for OC3 and OC12 Entrance Facilities. SWBT has not produced cost studies for these UNEs. SWBT believes that OC3 - OC48 costs should be priced on an ICB. According to SWBT officials "SWBT uses SONET equipment for its interoffice transport. These systems are primarily used for the interoffice transporting of DS1 and DS3 access service. Since the SWBT network is not designed to sell SONET optical service, much less SONET optical transport UNEs, SWBT has elected to offer SONET optical transport with ICB costing only. For the same reason, SWBT does not offer SONET optical circuit service in its Access tariff." Therefore, Staff agrees with SWBT that OC3-OC48 entrance facilities and crossconnects should be ICB priced.

Other Issues

Two issues from the arbitration proceedings concerned DCS and multiplexing. The issue concerning the DCS was whether or not SWBT is precluded from accessing Digital Cross Connect Systems (DCS) charges, when AT&T controls the DCS. SWBT has identified costs associated with these issues. Staff recommends making all modifications recommended in Case No. TO-97-40/67 to the DCS portion of the Dedicated Transport cost study.

The second issue was whether SWBT is precluded from assessing multiplexing charges, in addition to the dedicated transport charges approved by the Commission. In the arbitration/mediation session, Bill Deere from SWBT said that if traffic in a transport system is dropped off at the same speed it is picked up, the charges are included in the costs for Dedicated Transport. However, if the traffic is dropped off at a different speed from which it was picked up, there would be charges. In this case, AT&T would be requesting something that SWBT's network is currently not doing. Therefore, other costs would apply. SWBT has proposed costs for multiplexing DS-1 to VG and multiplexing DS-3 to DS-1. Costs for higher forms of multiplexing (i.e. OC-3 to OC-12) would be determined on an ICB.

Staff agrees with SWBT on both issues that there are costs associated with DCS access and multiplexing. However, Staff does not agree with SWBT's proposed costs for reasons described in this report and in the Costing and Pricing Report for Case No. TO-97-40/67. Staff recommends SWBT alter its dedicated transport cost studies with all applicable modifications described in TO-97-40/67. Staff also recommends that SWBT separate the costs associated with DCS access and multiplexing (for speeds that differ from when the traffic is picked up and dropped off) in its costs for dedicated transport. This will permit AT&T to know what it is being charged for and the products it is

receiving.

LIDB

The Line Information Database (LIDB) is a database of valid telephone and calling card numbers that allows processing of billing information. It is a transaction oriented database that functions as a centralized repository for data storage and retrieval. LIDB is accessed through common channel signaling (CCS) networks. It contains records of telephone numbers, associated names and addresses, telephone credit card data, customer third-number call preference, and other line information. The database is used for alternate billing service validations, such as billed number screening and calling card service. It also supports Calling Name identification. The interface is SWBT's regional signal transfer point (STP) and may also interface with SWBT service management system (SMS). The SMS functions provide input and update access to LIDB to keep records current. In TO-97-40, the staff reviewed costs and the Commission set rates for STP ports, SS7 Transport, Toll Free Calling Database query, Calling Name Delivery query, and LIDB query. Additional costs not reviewed include costs related to the SMS. These costs include a per query cost, per record updates for initial and subsequent records, and SLEUTH per query costs.

SWBT and AT&T have agreed, in principle, to how LIDB should be priced. SWBT and AT&T are negotiating price levels, not cost structure. The companies are negotiating how to establish query prices for AT&T because both companies acknowledge that SWBT cannot bill state-specific rates to query originators with multi-state operations.

Summary

The Line Information Data Base (LIDB) Validation Query cost study provides cost background for LIDB Query Cost and LIDB Service Order cost. The Calling Name (CNAM) delivery query provides cost background for CNAM query cost. These rates were set in TO-97-40.

The remaining cost study not yet reviewed is the LIDB SMS cost study. The LIDB SMS cost study identifies the TELRIC associated with SMS administrative functions that support LIDB. This includes a Line Verification Administration System (LVAS), the Data Base Administration Center (DBAC), and the Sleuth system. SLEUTH is the administration system that monitors alternate billing system fraud. The DBAC is the manual control point for inputs and updates to records.

The costs identified in this study include:

SMS cost per query
Manual Update -- initial, per record updated
Manual Update -- ongoing, per record updated[2]

---

[2] The Manual Update -- ongoing, per record updated service is tailored to small CLECs

Sleuth cost per query.

To obtain cost, SWBT converted the investment in LVAS and SLEUTH hardware to cost through capital cost and expense factors. Inflation factors were applied. Labor cost for DBAC and Sleuth was developed by multiplying the total number of personnel at each level in these organizations by the labor cost for each individual state to represent the provision of the service wholly within the state.

Total company queries were used to divide the cost to provide cost per query to match the use of total costs within each state. Queries of all types were used as a divisor in the SMS cost because the SMS supports all LIDB data query types. Only the alternate billing service queries were used in the Sleuth calculations because Sleuth detects fraud billing. DBAC updates were annualized and cost for manual updates was removed as this cost is identified separately in the study.

Total annual recurring cost of SMS without Sleuth was divided by the total company queries on the LIDB database to produce the cost per query for SMS. Annual recurring cost for Sleuth was divided by the total Alternate Billing Services (ABS) related queries on the LIDB database to produce the cost per query for Sleuth.

Manual update cost was determined by estimating the labor time to complete each update. The time was then multiplied times the appropriate labor rates. Inflation and commission assessment were applied.

To create price, SWBT combines query-related costs into a bifurcated price structure using four steps. These steps apply whether the query being priced is a Validation Query or a CNAM Service Query.

1) Separate the query cost into per-query and per-query transport.
2) Add both the Sleuth per-query cost and the SMS per-query cost to the query cost developed in Step 1 for Validation. Add only the SMS per-query cost to the query cost developed in Step 1 for CNAM Service Query. In either case, this develops an overall cost per query for each query type.
3) Apply the common cost allocator to the per-query cost developed in Step 2 to develop the per-query price.
4) Apply the common cost allocator to the per-query transport developed in Step 1 to develop the per-query transport price.

For CNAM Service Query Pricing SWBT completes the following steps:

1) The "Cost Per CNAM Delivery Query" cost element was apportioned into a per query and per query transport element. Cost studies provided two factors to create this apportioning. For Missouri, the factors are **_** percent for per query and **__**

---

with 1,000 or fewer lines.

HC

percent for per-query transport. This step was completed prior to the application of the common cost allocator.

2) Add the cost per query developed in Step 1 to the SMS For LIDB Cost Per Query cost element to develop the total per query cost. This step was completed prior to the application of the common cost allocator. The "Sleuth Cost per-query" does not apply to the CNAM Service Query.

3) Apply the common cost allocator to the total per query cost developed in Step 2. This provides the per CNAM Service Query Price.

4) Apply the common cost allocator to the per query transport cost developed in Step 3. This provides the Query Transport Price.

For Validation Query Pricing, SWBT completes the following steps:

1) The Cost per LIDB Validation Query cost element was apportioned into a per query and a per query transport by subtracting the cost per query transport developed above for the CNAM Service Query from the Validation cost element provided in the Cost studies. This step was completed prior to the application of the common cost allocator.

2) Add the cost per query developed in Step 1 to the SMS for LIDB Cost per Query and the Sleuth Cost per Query. This step was completed prior to the application of the common cost allocator.

3) Apply common cost to the total per query cost developed in Step 2, which provides the per Validation Query Price.

4) Apply common cost to the total per-query transport developed in Step 2 to develop the Query Transport price.

Modifications

1. Any changes made to CCSCIS and the signaling cost studies from TO-97-40 that impact the LIDB studies should be made to the cost study.

   STP Utilization:
   A link - 46.13125%
   C link - 12.9%
   D link - 40.47%
   SCP link - 18.76%
   800 DB queries - 286
   LIDB queries - 30.25
   CNAM queries - 359.37
   10% port growth per year
   10% BH queries/second growth per year

2. Applicable global modifications.
3. SWBT calculated the update cost incorrectly for initial and ongoing updates. The rates should be equal for both types of updates. The cost for both should be:
   Labor * labor rate * commission assessment * common cost allocator =
   **

HC

_____**.

4. Neither AT&T nor SWBT offer solid evidence to support the labor times for the LIDB service order charge. Since LIDB is most likely a complex service, the orders will require manual intervention. Therefore, staff recommends global modifications and cutting the service order charge in half to be consistent with other service orders. This service order charge should apply to only new LIDB service orders. The as is conversion charge will apply to current LIDB service conversions.

HC

Access to Directory Assistance Database

AT&T desires electronic access to SWBT's directory assistance database. SWBT has never provided access like AT&T wants, so has not produced a cost study. SWBT proposes directory assistance access be priced ICB. Staff agrees because the type of facilities needed for the access are not known to Staff. Therefore, Staff recommends that access to the directory assistance database be priced on an ICB. When determining the cost for AT&T, SWBT should include any necessary Staff proposed modifications to base the costs on forward looking assumptions.

Branding

Summary

SWBT provides Branding to both resellers and facilities based companies. Because of the differences in needs for these company types, SWBT proposes costs for each. Common characteristics and differences are discussed below.

Branding is a service by which SWBT automated equipment will provide a digitized announcement that may contain both tones and a spoken phrase to identify a telecommunications company to a caller. The CLEC will be able to provide a unique recording to identify itself to callers dialing 0-, 0+, and 411 when those calls are routed to a SWBT operator service system. The cost study identifies branding cost per call for resellers, a non-recurring charge per load, and a non-recurring charge per subsequent load for both CLEC types. Specific NRCs for general headquarters (GHQ) and Missouri are also identified for both CLEC types.

Recurring costs per call apply only to Resellers since SWBT is doing the work. Other recurring costs are incurred loading data and these come from GHQ and Missouri specific costs. Recurring costs per call type are developed for the items for which costs vary depending on the number or length of call. The unit of cost developed for each network component is dependent upon the appropriate unit of cost measurement, cost per call or cost per second. For components requiring cost to be developed on a cost per second, the cost per second is multiplied by the seconds required for each call type. Investments for switching, operator services equipment, and trunking are fed into ACES. SCIS, Costprog, CAPCOST and the operator services cost model (OSCM) are the models used in identifying investment and cost. SCIS, Costprog, and CAPCOST were reviewed in TO-97-40/67 while the OSCM has not been reviewed. This cost is represented through a per call cost. GHQ recurring costs include product management ongoing support, information services and data center operations, and operator services methods support. Missouri specific recurring costs include operator methods support and job aid development, operator services meetings with vendors.

SWBT identifies volume sensitive and volume insensitive NRCs for both resellers and facilities based providers. The volume sensitive NRCs are incurred for the initial information loading and subsequent loading. The time needed to prepare an announcement, update and load information, test, and create billing is multiplied times the appropriate hourly labor rate to determine cost. Inflation and a commission assessment are then applied.

The volume insensitive NRCs are related to GHQ and Missouri specific costs. For resellers, GHQ costs are incurred through time for Finance to prepare billing for the service, Information Services to update telephone line numbers and company numbers, Product Management to assist in getting the service established ongoing tracking of the

service, Access Services to request appropriate USOC's and FIDS and document methods, and Operator Services to develop methods and training. For facilities based providers, time is spent by Information Services for daily system backups, Product Management, and Operator Services. Time spent by each department is multiplied times the appropriate labor rates. Inflation and appropriate taxes are then applied to obtain total cost.

Missouri specific costs are related to the time Operator Services spends developing methods and training operators and service assistants. Operator Services also meets with vendors and spends time testing. Less effort for facilities based providers is needed, so the costs are lower. This amount of time is multiplied times the appropriate hourly rates.

In the cost studies, SWBT calculates initial per call costs, costs for loading, costs attributed to GHQ and Missouri specific costs. Unlike other cost studies where only the Common cost allocator is applied to a base cost, SWBT allocates a portion of GHQ and all of the Missouri specific costs to the initial per call and loading costs. To obtain a rate SWBT allocates a portion of the GHQ to Missouri and, SWBT assumed a demand of **__** CLECs using the Branding service over the three year planning period, Missouri's GHQ allocation is **__** percent, and there will be a call volume of **_____ ____** calls needing Branding[3]. For the per call rate, SWBT makes the following calculations:

1) GHQ Recurring = GHQ Recurring * GHQ Missouri Allocation * Common Cost Allocator
2) GHQ Nonrecurring = GHQ Nonrecurring * GHQ Missouri Allocation * Common Cost Allocator
3) MO Recurring = (Missouri specific Recurring / Planning Period) * Common Cost Allocator
4) MO Nonrecurring = (Missouri specific Nonrecurring / Planning Period) * Common Cost Allocator
5) Additional rate per call = (Sum of 1 to 4) / call volume
6) Total cost per call = additional rate per call + original cost per call.

For initial and subsequent loading, SWBT makes the following calculations:

1) GHQ Recurring = GHQ recurring cost * GHQ Missouri allocation/ demand * Common Cost Allocator
2) GHQ Nonrecurring = GHQ nonrecurring cost * GHQ Missouri allocation/ demand * Common Cost Allocator
3) MO Recurring = Missouri specific Recurring cost /

---

[3]**_____**.

HC

demand * Common Cost Allocator

4) MO Nonrecurring = Missouri specific Nonrecurring cost / demand * Common Cost Allocator

5) Load Rate (for Initial and Subsequent loads) = Initial loading cost + (Sum of 1 to 4)

Modifications

1. SWBT currently provides branding to 37 independent companies in Missouri. Staff recommends the use of the lowest intercompany compensation arrangement currently in effect.

External Rater/Reference

Summary

SWBT provides External Rating/Reference to both resellers and facilities based companies. Because of the differences in needs for these company types, SWBT proposes costs for each. Common characteristics and differences are discussed below.

External Rating/Reference is a service that allows the SWBT operator to quote unique rates by originating line number on a real time basis for Traffic Operator Position System (TOPS) calls as well as provide specific Business Office and Repair information for Independent Exchange Company (IEC) and CLECs. SWBT identified NRCs for volume sensitive services and volume insensitive services. Volume sensitive NRCs are proposed for initial loads and subsequent loads of data. The initial load is the time required by OS facility personnel to load IEC and CLEC Rater/Reference data into the data base. For facilities based companies, Exchange Carrier Relations also creates a tab card for billing. For resellers, Customer Services creates the billing arrangements. Subsequent loads involve the same personnel to update the data base with a rate change. Commission assessments are then applied. Loading costs are the same for resellers and facilities based carriers. Differences in costs emerge for the volume insensitive NRCs.

Volume insensitive NRCs are proposed for Shared services and Missouri specific services. Shared services include OS coordinating meetings, Information Services loading Bellcore V&H and LERG files, Marketing bringing the product on line, Cost Studies developing a cost study, and Operator Services methods personnel to develop methods/training and review additions to the database. Other shared costs for resellers include time for Information Services to update programming of telephone line/company numbers for reference, training finance personnel on bill preparation for rating, and time for Customer Services for requests for USOCS/FIDS and to document methods/procedures. Other shared costs for facilities based providers include Exchange carrier Relations setting up account codes and to record class for IBIS billing. Missouri specific costs include time for OS training operators and service assistants, and OS developing job aids and support for the external rating/reference. All labor times are multiplied times appropriate labor rates.

In the cost studies for External Rating, SWBT calculates costs on a volume sensitive and insensitive basis. Volume sensitive costs are NRCs for costs per initial and subsequent loading. Volume insensitive costs are NRCs for costs allocated to GHQ and for Missouri specific costs. Once costs are identified, SWBT makes the assumption of **___** percent of GHQ costs are recovered through Missouri rates and that a demand of **___** companies will be using the External Rating service. SWBT makes the following calculations to determine rates for External Rating:

1) Initial Loading = Vol. Sensitive NRC per initial load * CCA

HC

2)	Subsequent Loading	= Vol. Sensitive NRC per subsequent load * CCA
3)	GHQ Recurring	= (Vol. Insensitive NRC * GHQ Missouri Allocation) / demand * CCA
4)	GHQ NRC	= (Vol. Insensitive NRC for resellers or facilities * GHQ Missouri Allocation) / demand * CCA
5)	MO Recurring	= Missouri Vol. Insensitive NRC for resellers or facilities / demand * CCA
6)	MO NRC	= Missouri Vol. Insensitive NRC / demand * CCA

To calculate the prices for the services, SWBT does the following:

7)	**Initial Loading Rate**	= Sum of (1) + (3) through (6)
8)	**Subsequent Loading Rate**	= Sum of (2) + (3) through (6)

Modifications

1. SWBT officials indicate that they currently have contracts with 37 other ILECs for External Rating/Reference. Staff recommends the use of the lowest intercompany compensation arrangement currently in effect.

Simple Service Conversion

Summary

The purpose of the Simple Service Conversion Cost study is to identify the NRCs associated with converting a SWBT customer to a CLEC or between CLECs on a resale basis. SWBT proposes that when an end user is currently receiving simple service from the SWBT network, SWBT will charge a simple service order charge on a per-conversion basis. A simple service is traditional exchange access service, excluding those services identified in the Complex Service Conversion cost study. According to SWBT officials, anything that is not Complex is Simple. All costs assume that the customer has no change in service other than the carrier providing it.

The cost is composed of Local Service Provider Service Provider (LSPSC) labor and finance expenses. The LSPSC component consists of the service representative's labor expense while negotiating SWBT customer requirements to convert to a CLEC. This includes typing, reviewing and performing clerical functions to process the service order at the LSPSC. Finance costs include the salary and data processing expenses associated with the operation of the computer system that distributes service orders to the appropriate departments and maintains customer records. Data processing costs were calculated per order. Costs were derived by multiplying the labor rates times the time required to complete an activity. Inflation and a Commission assessment were then applied to obtain total cost.

Recommendations

1. Staff recommends that the conversion charges presented in TO-97-40/67 remain as is. This charge should apply to as is conversions for resale or UNEs. For examples of how the conversion charge should apply, see Service Order Clarification in Section II.

Please see the following table for Staff's proposed methodolgy.

Conversion Charges for Resold Services

Simple Service Conversion	**Mechanized**			**Manual**		
	SWBT	**Staff**	**AT&T**	**SWBT**	**Staff**	**AT&T**
Labor cost	**_**			**_**		
Time (hours)	**_**			**_**		
Commission Assessment	**_**			**_**		
Inflation	**_**			**_**		
Finance	**_**			**_**		
Total	**_**	**$ 5.00**	**$ 5.00**	**_**	**$ 5.00**	**$ 5.00**

Complex Service Conversion -- Manual			
	SWBT	**Staff**	**AT&T**
Labor cost	**_**		
Time (hours)	**_**		
Finance Charge	**_**		
Commission Assessment	**_**		
Inflation	**_**		
Total	**_**	**$ 54.29**	**$ 5.00**

HC

Complex Service Conversion Charge

Summary

The purpose of the Complex Service Conversion Charge cost study is to identify the NRCs associated with converting a SWBT customer to a CLEC or between CLECs on a resale basis. When a CLEC converts an end user receiving a complex service from the SWBT network, SWBT proposes to charge a per order-conversion charge per billable telephone number. A complex service has specific engineering requirements and uses a different platform than current technology. SWBT assumes that the customer has no change in service other than the carrier providing it. SWBT identifies the following services as complex services:

Service Subject to Complex Service Conversion Charge

DID	IntelliNumber SM
PBX Trunk	Intelligent Redirect SM
Plexar II	Disaster Routing
ISDN/Digilines SM	Positive ID SM
Customer Rearrangement Service (CRS)	Caller Intellidata
Network Reconfiguration Service	Area Wide Networking (AWN)
Frame Relay	Multipoint Video
Telephone Answering Service	Microlink I, II
Smart Trunk SM	Megalink I, II, III
FX Service	Broadband Educational Video
800/WATS	Distance Learning Service Video
Private Lines	Select Video Plus
Centrex	Select Data
Digital Loop Service	Select Video
SecureNet	CO-LAN
DOVLink SM	Group Alerting

The costs for the complex conversion are composed of Local Service Provider Service Center (LSPSC) labor and Finance expenses. The LSPSC component consists of

the service representative's labor expense while negotiating SWBT customer requirements to convert to a CLEC. This includes typing, reviewing and performing clerical functions to process the service order at the LSPSC. Finance costs include the salary and data processing expenses associated with the operation of the computer system that distributes service orders to the appropriate departments and maintains customer records. Data processing costs were calculated per order. Costs were derived by multiplying the labor rates times the time required to complete an activity. Inflation and a Commission assessment were then applied to obtain total cost.

Recommendations

1. For Complex Service Conversion orders, Staff assumes that all Complex conversions will require manual intervention. Staff recommends that the complex service conversion rate apply to resold services and to complex UNEs converted on an as is basis.

   SWBT contends that an average Complex Service Conversion requires **___** minutes (**___** hours). In other words, a single service representative will process about three Complex service orders per day. The bottom line is that -- under resale -- only the billing information for the UNEs is changing from SWBT to the CLEC. Since both AT&T and SWBT rely on SME estimates of labor times to process orders, and neither party has solid evidence to support their side, Staff recommends SWBT make any applicable global modifications and cutting SWBT's labor rates in half.

For a description of staff's methodology, please see the table preceding this section.

HC

Unbundled Service Order

SWBT does not currently have a cost study for a mechanized UNE service order, but has developed a cost study for a manual procedure. AT&T desires costs be identified for an electronic order. Staff's recommendations are based on costs for an electronic process and 95 percent flowthru of information through SWBT's operational support systems to completion. Staff also assumes that these costs for these orders occur for new service customers and subsequent orders only and do not apply to initial conversion orders.

Summary

The purpose of Unbundled Service Order cost study is to identify the NRCs associated with providing UNEs to CLECs on a manual basis only. SWBT proposes to charge a non-recurring Simple or Complex Service Order Charge for providing UNEs. Within the Simple and Complex service categories, a service charge has been established for the following order types:

New Service: This will apply when an end user customer initiates service with AT&T and AT&T elects to serve the customer using unbundled Network Elements.
Change: This will apply when an AT&T customer's existing service is being physically or logically altered in some way.
Record: This will apply when there is no physical or logical work required and all that is necessary is the update of SWBT's internal records.
Disconnect: This will apply when an existing service is being completely disconnected.
Suspend: This will apply when a functionality is to be suspended until further notice. Uses Record Order Charge cost.
Restore: This will apply when a previously suspended functionality is to be restored. Uses Record Order Charge cost.
Expedited: This will apply when the requested due date is less than the standard interval. Uses Change Order Charge cost.
Customer Change Charge: This will apply when an end user customer of Resale services changes from one LSP (including SWBT) to another LSP (including SWBT).
Customer Not Ready Charge: Charges equal to the actual service order charge will apply when SWBT is prepared to turn service over to AT&T on the due date and AT&T or the end user customer is not ready to accept the service. Uses Change Order Charge cost.
Cancellation/Modification/Due Date Change Charge: This will apply when the due date is changed or the service order is canceled or modified within 2 days prior to the due date. Uses Change Order Charge cost.

The cost study is based on the non-recurring costs associated with labor effort necessary to provide UNEs and data processing. Costs were developed separately for the different service categories because of labor differences. Costs are developed on a per order basis. The components of the cost include Local Service Provider Service Center

(LSPSC) labor costs for each network element and the labor rate. Labor costs include costs for the local service order (LSR) and typing. LSR activities include receiving the request, verifying the request is correct, obtaining credit information, and determining if coordination is needed to provide service. Typing includes translating the LSR into USOCS and FIDS, creating a service order, and distributing the service order. The costs were then weighted using the estimated percent of time that an UNE would be requested. UNEs used in determining LSPSC costs are

Simple	Complex
Ports	Ports
Loops	DS1 Facility
NID	Dedicated Transport
Cross Connect	Sonet

According to SWBT, the UNEs in the Simple category consist of Analog line port, DS1 trunk port, single line business up to 10 lines, residence single line. All other UNEs fall into the Complex category.

Data processing costs are for CPU and Execute Channel Program (EXCP) costs associated with mechanical processing of a service order through various systems. CPU cost was developed for

PREMISE
FACS
WFA
TIRKS
SORD, EASE, EXACT
CABS.

The CPU cost was determined by multiplying the average number of CPU seconds per transaction by the CPU cost per second and applying inflation. The EXCP cost was developed for

SORD, EASE, EXACT
CABS.

The EXCP cost was determined by multiplying the average number of EXCPS per transaction by the cost per EXCP and applying inflation.

Total cost for the service order is the total of LSPSC labor, CPU, and EXCP costs. A commission assessment factor was also applied.

Recommendations

The December 23, 1997 order in Case No. TO-98-115 requested a clarification of service order charges. SWBT has divided service orders into simple and complex. AT&T

believes there is no difference between service orders and that all should flow through SWBT's OSS without manual intervention. Staff believes that simple orders will be completed on a mechanized basis and complex orders will be completed on a manual basis. With the exception of New Service, all other charges apply to subsequent orders. Staff recommends the following modifications:

1. For simple service orders, SWBT's proposed costs are based on negotiations and typing. Negotiation charges are for SWBT to coordinate the needed changes to its network. On a forward looking basis, the UNE service orders will be done on an automated basis, not manually, therefore costs for a manual procedure should not apply. On a forward looking basis, there should only be typing costs, if any, for SWBT. The reason for there only being typing costs for simple UNE conversions is because if the CLEC is doing its job correctly and SWBT has specified what it needs from the CLEC there would be no need for negotiation and no need for SWBT to intervene in the order. Without negotiation, the process is reduced to an electronic process of the CLEC entering customer data and customer needs and the information flowing through SWBT's OSS. Therefore, Staff recommends removing the negotiation costs from the service order cost study.

   Staff also recommends the use of a flowthru factor of 5 percent. For a description of this modification see the **Local Switching Features** cost study summary. The logic behind applying the flowthru factor to UNE service orders is the same as the logic behind its application to the Local Switching features orders.

   Assuming a 5 percent flowthru and that the labor time required to complete an order is based on SWBT's typing time, Staff agrees with SWBT's labor times for all simple UNE orders.

   Staff is concerned that SWBT may be double recovering costs through the Disconnect Order. The NRCs associated with UNEs are for connection and disconnection of the UNE. The extent to which costs for UNEs NRCs cover the Disconnect Order is not known. Since, neither party suggested any alternative, no changes can be recommended at this time.

2. For Complex service orders, Staff assumes that all Complex service orders will require manual intervention. For complex conversions, the services are more complex which means human intervention is necessary to process the information. All other negotiation charges should be covered in the recurring and NRCs for the elements to either change ownership of the element to the CLEC from SWBT, or to connect the element(s) to the CLEC's switch.

   Staff recommends the negotiation times be cut in half and that typing times be reduced to 15 minutes. Prior to ordering the services from SWBT, the CLEC will

have done most (if not all) of the work to identify what elements are needed from SWBT. The CLEC will also have done most (if not all) of the work producing the service order. SWBT's time spent identifying UNEs and needed changes will decrease substantially. Typing time will only be for processing the orders, which should not require more than 15 minutes of SWBT's time, assuming the CLEC properly created the order. Negotiation time will only be for the time for SWBT to coordinate the changes that are to be made to the UNEs.

3. CPU and EXCP costs should remain the same for Simple Orders. To be consistent with other changes in Complex Orders, Staff recommends CPU and EXCP costs be cut in half.

Please see the following tables for Staff's proposed methodolgy.

UNBUNDLED SERVICE ORDERS

New Service - Simple

SWBT Proposal	**Negotiation Labor time**	**Typing Labor time**	**Hourly Rate**	**Inflation**	**Flowthru**	**Percent Requested**	**CPU Processing Cost**	**EXCP Processing Cost**	**Weighted Average**
Port	** **	** **	** **	** **	1	** **			** **
Loop	** **	** **	** **	** **	1	** **			** **
Xconnect	** **	** **	** **	** **	1	** **			** **
Total							** **	** **	** **
Total Cost with Commission Assessment									** **

Staff Proposal		**Labor time**						**Weighted Average**
Port	$ -	** **	** **	0.05	** **			$ 0.24
Loop	$ -	** **	** **	0.05	** **			$ 0.48
Xconnect	$ -	** **	** **	0.05	** **			$ 0.18
Total						$ 1.10	$ 0.11	**$ 2.10**
Total with Commission Assessment								**$ 2.11**

AT&T Proposal

All Conversions	
Total	**$ 0.19**
Total With CCA	**$ 0.2**

CH

UNBUNDLED SERVICE ORDERS

Change - Simple

SWBT Proposal	**Negotiation Labor time**	**Typing Labor time**	**Hourly Rate**	**Inflation**	**Flowthru**	**Percent Requested**	**CPU Processing Cost**	**EXCP Processing Cost**	**Weighted Average**
Port	** **	** **	** **	** **	1	** **			** **
Loop	** **	** **	** **	** **	1	** **			** **
NID	** **	** **	** **	** **	1	** **			** **
Xconnect	** **	** **	** **	** **	1	** **			** **
Total							** **	** **	** **
Total With CCA									** **

Staff Proposal		**Labor time**						
Port	$ -	** **	** **	0.05	** **			$ 0.14
Loop	$ -	** **	** **	0.05	** **			$ 0.48
NID	$ -	** **	** **	0.05	** **			$ 0.14
Xconnect	$ -	** **	** **	0.05	** **			$ 0.11
Total						$ 1.10	$ 0.11	**$ 2.08**
Total With Commission Assessment								**$ 2.09**

AT&T Proposal	**$ 0.19**
	$ 0.2

These costs apply to Expedited, Customer Not Ready, and DUE Date Cancel or Change charges.

UNBUNDLED SERVICE ORDERS

Disconnect - Simple

SWBT Proposal	**Negotiation Labor time**	**Typing Labor time**	**Hourly Rate**	**Inflation**	**Flowthru**	**Percent Requested**	**CPU Processing Cost**	**EXCP Processing Cost**	**Weighted Average**
Ports	** **	** **	** **	** **	1	** **			** **
Loops	** **	** **	** **	** **	1	** **			** **
NID	** **	** **	** **	** **	1	** **			** **
Crossconnect	** **	** **	** **	** **	1	** **			** **
Total							** **	** **	** **
Total with Commission Assessment									** **

Staff Proposal		**Labor time**						
Ports	$ -	** **	** **		0.05	** **		$ 0.07
Loops	$ -	** **	** **		0.05	** **		$ 0.48
NID	$ -	** **	** **		0.05	** **		$ 0.07
Crossconnect	$ -	** **	** **		0.05	** **		$ 0.05
Total						$ 0.28	$ 0.11	**$ 1.07**
Total with Commission Assessment								**$ 1.07**

AT&T Proposal	
Total	**$ 0.19**
Total with CCA	**$ 0.21**

CH

UNBUNDLED SERVICE ORDERS

Record Order - Simple

SWBT Proposal	**Negotiation Labor time**	**Typing Labor time**	**Hourly Rate**	**Inflation**	**Flowthru**	**Percent Requested**	**CPU Processing Cost**	**EXCP Processing Cost**	**Weighted Average**
Port	** **	** **	** **	** **	1	** **			** **
Loop	** **	** **	** **	** **	1	** **			** **
NID	** **	** **	** **	** **	1	** **			** **
Xconnect	** **	** **	** **	** **	1	** **			** **
Total							** **	** **	** **
Total With Commission Assessment									** **

Staff Proposal		**Labor time**					
Port	$ -	** **	** **	0.05	** **		$ 0.14
Loop	$ -	** **	** **	0.05	** **		$ 0.48
NID	$ -	** **	** **	0.05	** **		$ 0.14
Xconnect	$ -	** **	** **	0.05	** **		$ 0.11
Total					$ 0.28	$ 0.11	**$ 1.26**
Total With Commission Assessment							**$ 1.27**

AT&T Proposal	**$ 0.1[redacted]**
	$ 0.2[redacted]

These costs apply to the Suspend / Restore charges.

UNBUNDLED SERVICE ORDERS

Complex -- New order

All Complex orders are assumed to require manual intervention.

SWBT Proposal	Negotiation Labor time	Typing Labor time	Hourly Rate	Inflation	Percent Requested	CPU Processing Cost	EXCP Processing Cost	Total Weighted Average
Port	** **	** **	** **	** **	** **			** **
DS1 Facility	** **	** **	** **	** **	** **			** **
Dedicated Transport	** **	** **	** **	** **	** **			** **
SONET	** **	** **	** **	** **	** **			** **
Total						** **	** **	** **
Total with Commission Assessment								** **
Staff Proposal								
Port	1	0.25	** **		** **			$ 10.70
DS1 Facility	2	0.25	** **		** **			$ 33.70
Dedicated Transport	2.5	0.25	** **		** **			$ 35.30
SONET	3.5	0.25	** **		** **			$ 24.07
Total						$ 1.10	$ 0.11	**$ 104.98**
Total with Commission Assessment								**$ 105.20**

UNBUNDLED SERVICE ORDERS

Change Request - Complex

All Complex orders are assumed to require manual intervention.

SWBT Proposal	**Negotiation Labor time**	**Typing Labor time**	**Rate**	**Inflation**	**Percent Requested**	**CPU Processing Cost**	**EXCP Processing Cost**	**Total Weighted Average**
Port	** **	** **	** **	** **	** **			** **
DS1 Facility	** **	** **	** **	** **	** **			** **
Dedicated Transport	** **	** **	** **	** **	** **			** **
SONET	** **	** **	** **	** **	** **			** **
Total						** **	** **	** **
Total with Commission Assessment								** **
Staff Proposal								
Port	0.5	0.25	** **		** **			$ 4.40
DS1 Facility	0.75	0.25	** **		** **			$ 11.42
Dedicated Transport	1.75	0.25	** **		** **			$ 22.90
SONET	2.25	0.25	** **		** **			$ 15.00
Total						$ 1.10	$ 0.11	**$ 54.94**
Total With Commission Assessment								**$ 55.06**

These costs apply to Expedited, Customer Not Ready, and DUE Date Cancel or Change charges.

UNBUNDLED SERVICE ORDERS

Complex -- New order

All Complex orders are assumed to require manual intervention.

SWBT Proposal	Negotiation Labor time	Typing Labor time	Hourly Rate	Inflation	Percent Requested	CPU Processing Cost	EXCP Processing Cost	Total Weighted Average
Ports	** **	** **	** **	** **	** **			** **
DS1 Facility	** **	** **	** **	** **	** **			** **
Dedicated Transport	** **	** **	** **	** **	** **			** **
SONET	** **	** **	** **	** **	** **			** **
Total						** **	** **	** **
Total with Commission Assessment								** **
Staff Proposal								
Ports	0.25	0.25	** **		** **			$ 4.28
DS1 Facility	0.25	0.25	** **		** **			$ 7.49
Dedicated Transport	0.75	0.25	** **		** **			$ 12.84
SONET	0.75	0.25	** **		** **			$ 6.42
Total						$ 0.50	$ 0.11	**$ 31.63**
Total with Commission Assessment								**$ 31.70**

UNBUNDLED SERVICE ORDERS

Record - Complex

All Complex orders are assumed to require manual intervention.

SWBT Proposal	Negotiation Labor time	Typing Labor time	Hourly Rate	Inflation	Percent Requested	CPU Processing Cost	EXCP Processing Cost	Total Weighted Average
Port	** **	** **	** **	** **	** **			** **
DS1 Facility	** **	** **	** **	** **	** **			** **
Dedicated Transport	** **	** **	** **	** **	** **			** **
SONET	** **	** **	** **	** **	** **			** **
Total						** **	** **	** **
Total with Commission Assessment								** **
Staff Proposal								
Port	0.5	0.25	** **		** **			$ 6.42
DS1 Facility	0.75	0.25	** **		** **			$ 14.98
Dedicated Transport	1.25	0.25	** **		** **			$ 19.26
SONET	1.75	0.25	** **		** **			$ 12.84
Total						$ 0.28	$ 0.11	**$ 53.88**
Total with Commission Assessment								**$ 53.99**

These costs apply to the Suspend / Restore charges.

HC

Dark Fiber

Summary

For this cost review, a rate for dark fiber crossconnects and NRCs have been proposed by SWBT.

Dark Fiber Crossconnect

For the dark fiber crossconnect, recurring and NRCs are proposed. Costs are determined for an optical jumper required to crossconnect the SWBT equipment to interconnector designated equipment. Recurring costs represent the cost of equipment required to meet the technical parameters of the service. The design consists of the transmission equipment configuration for the dark fiber crossconnect scenario. Investments are fed into the ACES cost model and converted into cost.

NRCs are based on the labor time and labor rate to perform installation and disconnection of a dark fiber crossconnect.

Dark Fiber NRCs

NRCs that SWBT proposes for dark fiber are related to the costs for processing requests for dark fiber. Included in the NRC are costs for records research and for the subloop. Records research includes research company plant location records, taking inventory of existing fiber cables, and creating cable schematics. After a CLEC has requested dark fiber, Transmission engineering develops and issues an Transport Document. The TD document contains information on fiber assignments and calculated loss data. The document is for field forces and data processing clerks to activate the dark fibers and to record the TD data in to TIRKS. Labor time for performing the functions is multiplied times appropriate labor rates. Inflation factors are then applied to find total cost.

Modifications

1. For the recurring charges for the dark fiber crossconnect, staff has no recommendations other than global modifications.
2. For NRCs related to dark fiber, neither side has made a valid argument to support the amount of time required to connect and disconnect a crossconnect, so Staff recommends cutting SWBT's rates in half to be consistent with other modifications to NRCs.

Plexar Custom

Plexar is SWBT's centrex service. AT&T wishes to purchase on a resale basis Plexar Custom from SWBT. Where possible SWBT has developed standard costs for Plexar, however, because of the custom nature of the service, SWBT is proposing ICB rates. According to the agreement, SWBT will offer AT&T the same price SWBT provides to its Customers less avoided costs, if any.

Staff has reviewed three Plexar Custom contracts. Costs are incurred through the station, features, and service and equipment charges to recover costs of loop and switch. Costs are dependent upon switch type and lines. Loopvest and SCIS are used to generate cost for the loops and switch. Costs are spread over contract periods.

According to Section 392.200.8 RSMo, customer specific pricing is allowed for custom centrex services. Currently, SWBT's Plexar Custom service is ICB in its tariffs. Plexar I and II services have specific tariffed rates. For Plexar Custom, SWBT standardized costs for several features, services and equipment charges. Costs for features are dependent upon switch type and will vary accordingly. For example, Custom Plexar service out of a 5ESS is more expensive than Custom Plexar service out of a DMS100.

SWBT provided staff three of its most recent Plexar Custom cost studies. The subscribers varied in line usage from about 20 lines to over 150 lines. The contracts varied from three years to five years. These cost studies identified the locations, switch, and features the subscriber desired and recurring and non-recurring charges for the service. NRCs are based on the labor and labor rates for performing a service.

Recommendation

The contracts for Plexar Custom are much like SWBT's cost studies with the exception that the costs are derived for a single customer. This issue is treated like all other resale issues. The contracts were provided for informational purposes only.

NXX Migration

Summary

The NXX Migration cost study develops the forward-looking nonrecurring cost to move (migrate) an NXX from a SWBT switch to a CLEC switch. The move of an NXX may be requested by a CLEC when a CLEC becomes the service provider for the end user only if the end user has more than half of the numbers in an NXX working and all the other numbers in the NXX are vacant (e.g., a Centrex/Plexar or DID customer). With the migration of the NXX, the end users retain their old telephone numbers though service is then provided via the CLEC switch. The migration of an NXX may or may not require the reuse of SWBT distribution facilities depending on the CLEC choice for provisioning service. Costs associated with the distribution facilities are not included in the NXX study since they are covered by other rate elements. In other words, migrating a NXX is simply moving it from one switch to another. SWBT proposes that if a NXX is migrated from one of its switches to a CLEC's switch, a cost is incurred and SWBT proposes a rate to recover the cost.

Each time a CLEC requests the migration of an NXX, certain activities are required to remove the NXX from SWBT network and to reroute the NXX to the CLEC switch. These activities include: project coordination; changing translations in end offices, tandems and Signal Transfer Points (STPs); and changes in several systems and service centers. These activities mostly require labor time, but there may also be some computer run time to delete the NXX from computer systems and in some cases there may be a vendor charge to remove the NXX from a SWBT switch.

Labor costs for translations, systems changes, vendor charges, etc. are taken from SWBT's ACES model. Vendor charges include sales taxes. An inflation factor and a Commission assessment factor are added to arrive at total labor cost for the aforementioned activities. The cost of updating the Local Exchange Routing Guide (LERG) is then added to the total labor cost above. The LERG cost study is based on data from SWBT's company wide OSS Study II - IUC. Lastly, the cost of computer run time is added to arrive at the total nonrecurring charge for NXX migration.

AT&T contends that the costs of migrating a NXX are very similar to administrative costs incurred each time a new NXX is created. The migration of NXXs will occur rarely compared to the incidences of new NXXs being created. The administrative costs of work to incorporate a new NXX is included in SWBT's maintenance factors. To add the cost of migrating NXXs to the development of the maintenance factor would not cause a significant change in the factors. No additional personnel would be needed and no additional hours would be needed. All carriers will have a need to add and migrate NXXs in a competitive marketplace. In requiring each carrier to bear its own costs associated with adding and migrating NXXs, no additional rate needs to be established. AT&T feels that a charge for NXX migration is double

recovery.

Modifications

Neither side has presented an effective argument to justify that there is a substantial cost associated with NXX migration or that all costs will be recovered internally through migrating a NXX. Staff would also like to point out that SWBT proposes a price that is different from what was proposed when it filed its Statement of General Terms and Conditions (SGAT). In Case No. TO-98-115, SWBT proposes a price of $12,939.25 while it proposed a price of $10,000 in its SGAT. Staff does not know the extent to which costs will need to be recovered internally as AT&T believes. Staff does not know the extent to which SWBT's costs are not recovered internally. Therefore, Staff recommends that the cost for NXX migration be one half of that proposed by SWBT.

White Pages

Summary

The purpose of the Directory Assistance Listing study is to identify the recurring costs associated not only with providing the customer with a line of information in the White Pages Directory, but cost associated with the printing and distributing of directories, and costs associated with the insertion and deletion of listings in the White Pages.

The following cost components were identified in determining the monthly recurring expense associated with providing Directory Assistance Listing service:

Paper--The paper used in the production of the White Pages Directory.
Printing--The printing of the White Pages Directory.
Transportation--Cost involved in transporting the printed copies of the Directory from the printer location to the delivery distribution point.
Management Fee--The management administration fees paid to SWBT to administer the White Pages Publishing Agreement.
Delivery--Cost to get the Directory to the customer's location.

The directories are divided among three geographic groups, one each for urban, suburban and rural. Costs, copies and listing counts are associated with a particular directory based upon the geographic groups. The unit cost developed for each component is dependent upon the appropriate unit of cost measurement (i.e., cost per listing, cost per page, or cost per copy). The annual expense data for each of the components listed above were obtained from Directory White Pages. These costs were totaled and then divided by the appropriate unit measurement to obtain the "per" cost. A Commission assessment factor is added along with a levelized inflation factor to arrive at the total "per" cost for Directory Assistance Listing.

Modifications

1. Include 4 rate zones instead of three for consistency with other modifications from TO-97-40/67.

2. All other applicable modifications from TO-97-40/67.

LSP Emergency Contact

Summary

The purpose of this study is to identify the recurring costs associated with handling a local service provider's (LSP's) request for non-published service in emergency situations. Non-published service allows a customer's telephone number to be omitted from the White Pages Directory and Directory Assistance records. When a LSP customer requests a SWBT subscriber non-published number in an emergency situation and the LSP determines non-published service is warranted, the LSP calls directory assistance and SWBT queries the non-published data base to obtain the customer's name and callback number. SWBT will attempt to call the non-published customer and relay the calling customers name and phone number (SWBT will make an additional attempt if the line is busy or no one answers). The customer's number is only available to designated SWBT employees.

Two cost components were identified in determining the monthly recurring cost associated with LSP Emergency Contact: Operator Services and Exchange Carrier Relations. The recurring cost identified for Operator Services includes only labor cost associated with the average time spent handling a LSP's request for non-published service in emergency situations. The labor cost was developed by multiplying the labor minutes by the appropriate labor cost and applying a levelized inflation factor and commission assessment factor to determine a total labor cost. The recurring cost identified for Exchange Carrier Relations included only labor cost associated with consolidating reports to obtain a total by LSP, state and sending the report billing. The labor costs were developed by multiplying the labor minutes for one month by the appropriate labor cost and applying a levelized inflation factor and commission assessment factor.

Modifications

Any applicable global modifications.

Maintenance of Service

Summary

The purpose of the Maintenance of Service cost study is to identify the long run incremental forward looking NRCs associated with providing maintenance of service for equipment. The study is based on the labor associated with dispatching a technician to a customer premises and determining where the trouble is located. If the trouble is SWBT's, the customer is not billed. However, if the trouble is the customer's, the customer is billed. The billing is based on half hour increments depending on work schedule. Work schedules are either Basic Time, Over Time, or Premium Time. SWBT defines the schedules as follows:

Basic--Work related efforts of the Telephone Company performed during normally scheduled work hours.

Overtime--Work related efforts of the Telephone Company performed outside of a normally scheduled work day.

Premium Time--Work related efforts of the Telephone Company performed outside of a normal scheduled work week.

The rates are based on half hour increments and divided into first half hour and additional half hours. The first half hour includes customer service bureau repair ticket processing, travel to the premises, trouble isolation, and close out ticket. Data processing expenses are also included to account for the mechanical processing of transactions through Loop Maintenance Operations Systems (LMOS) and Work and Force Administration/Dispatch Out (WFA/DO). The additional half hour includes only the labor associated with trouble isolation. Labor costs are based on time for each schedule times the appropriate hourly labor rate with an inflation adjustment. Data processing costs include the CPU and Execute Channel Program (EXCP) expenses associated with processing transactions. CPU cost was determined by multiplying the average CPU seconds per transaction times ten CPU cost per second with an inflation adjustment. CPU cost for each system was summed to produce total CPU cost per transaction. EXCP costs were determined by multiplying the average number of EXCPs per transaction by the cost per EXCP with an inflation adjustment.

Modifications

AT&T and SWBT settled on acceptable rates for this service. Therefore Staff does not recommend any changes at this time. Staff reviewed the cost study for informational purposes only.

Time and Material

Summary

The purpose of the Time and Material cost study is to identify the costs associated with the forward looking long run incremental costs associated with providing personnel to repair equipment provided by local service providers or end users. SWBT proposes to charge time and material charges with SWBT dispatches personnel and the trouble is not in SWBT's equipment. The NRCs associated with dispatching a technician to repair equipment were developed for a first half hour and for each additional half hour. Costs of material are not included because they are billed separately. Costs schedules are defined as follows:

Basic Time--Work related efforts of the Telephone Company performed during normally scheduled working hours.

Overtime--Work related efforts of the Telephone Company performed outside of a normally scheduled work day.

Premium Time--Work related efforts of the Telephone Company performed outside of a normal scheduled work week.

The NRCs include labor and data processing expenses. The first half hour includes Customer Service Bureau Repair Ticket Processing, Repair, Close Out Ticket, LMOS use, and WFA/DO use. The additional half hour cost includes only labor associated with trouble isolation.

Modifications

AT&T and SWBT settled on acceptable rates for this service. Therefore Staff does not recommend any changes at this time. Staff reviewed the cost study for informational purposes only.

SECTION IV.
THE NON-RECURRING COST MODEL

During the cost review for TO-97-40, AT&T and MCI contended that all of the non-recurring charges (NRCs) proposed by SWBT were included in the monthly recurring rates. Upon review of other state's cost studies in SWBT's territory and other ILECs, AT&T and MCI found there are minor NRCs that are not covered in the monthly recurring rates. AT&T and MCI enlisted the aid of telecommunications industry experts to create a Non-Recurring Cost Model (NRCM) to identify the NRCs associated with various UNEs. This model is the product of the input of persons with backgrounds in engineering, operations, costing, marketing, sales, regulatory, and product management experience. The people involved in creating the model have work experience with RBOCs, Bellcore, and IXCs.

The NRCM is a spreadsheet based costing tool that calculates the forward looking cost of customer connection, disconnection, and change of service charges. The model also calculates the costs of additional activities related to interconnection, unbundling, and wholesale service. The model is based on the SME's input for the time required to complete the tasks associated with the services, labor rates for employees completing the tasks, and the probability that a task will be needed. The model is designed to reflect the most efficient management and operations of existing ILEC Operational Support Systems (OSSs).

The majority of non-recurring element types involve activities associated with pre-ordering, ordering and/or provisioning processes. AT&T defines these steps as:

> Pre-ordering is the process by which a CLEC interfaces with customers to determine customer needs. A CLEC and ILEC exchange necessary information to initiate orders. The information is comprised of customer premise address, telephone number availability, feature availability and service availability. The information is made available electronically so CLECs can accurately respond to customers.
>
> Ordering is the process by which a CLEC electronically submits a Local Service Request to an ILEC through an electronic gateway. The ILEC responds electronically with a positive confirmation of order acceptance.
>
> Provisioning is the process by which an ILEC, after receipt of an LSR, performs the necessary functions to provide the service, interconnection, or UNE elements requested by a CLEC.

Model Process

To determine NRCs, the model determines the type of NRCs for which costs are desired, identifies work activities associated with the NRC(s), calculates costs, and generates a report. In the first step, the model identifies elements for which NRCs are to be determined. The NRC element types that were initially selected for calculation by the model were developed based on a review of the charges ILECs proposed during negotiation and arbitration proceedings. The NRC element types consist primarily of functions performed in the provisioning of service to existing customers and to new customers.

In the second step, the model identifies the individual systems utilized and manual work activities performed, when an ILEC provides a non-recurring service. These activities are considered generic for the ILEC and fall within the pre-ordering, ordering, and provisioning processes. The model includes 225 steps that can be performed. The model maps the steps necessary to complete a task for each NRC.

In the third step, the model calculates a cost of each activity and process. The model then sums the activities to obtain a NRC. AT&T allows for overhead through the application of a common cost allocator of 10 percent. Finally, the model generates a report that identifies the element, and costs with and without common cost.

Assumptions

AT&T made several assumptions related to forward looking technology and efficiency when creating the model. The assumptions are related to an efficient operational support system (OSS), recovery of OSS investment, electronic fallout, labor rates, work times, probabilities, use of dedicated facilities, and testing. These assumptions are summarized below.

The NRCM assumes the existence of an efficient OSS that is operated efficiently by an ILEC. Such systems are automated and mechanized today and should be capable of handling all movement of data electronically between other systems and databases. AT&T defines the environment in which the OSS operates under the following conditions:

- No network exhaustion is assumed
- To the extent problems occur, the ILEC will pro-actively conduct a proper root cause analysis and will implement changes to eliminate the problem
- CLECs will have access to the OSSs via an electronic interface
- Work throughput is efficiently planned (i.e., POTS and ISDN BRI-type services should not be classified as designed circuits. Such a classification is unnecessary, does not mirror ILEC procedures, and drives up costs)
- Company personnel are adequately trained
- The deployment of the latest data communications network technology.

The NRCM assumes that the costs of the underlying OSSs should be recovered in

the LEC's recurring wholesale and retail rates. OSSs were not designed to support only CLECs. OSSs were designed to manage the entire LEC telecommunication network. OSS development is based on the assumption that the OSS will have a life-span of several years. Therefore, AT&T assumes that recovery of the cost for an OSS is spread over the lives of the systems that comprise the OSS.

Electronic fallout refers to errors in an electronic flow-through process. If one of the OSSs receives erroneous information from another OSS, the order will fallout of the electronic process and may require manual intervention to correct the order. AT&T views fallout as important because it is often the cost driver for an NRC. In the absence of fallout, the remaining costs are for system processing costs. AT&T views four types of fallout:

1. Database synchronization errors — when databases that contain identical data do not match, or they disagree as to the availability or status of a needed resource. This error occurs most frequently.
2. Network element denial — when elements cannot perform a function requested by another component of the network for whatever reason. For example, when a UNE management system specifies that a version of software offers certain features, but that software version has not been installed.
3. Communications errors — represent the failure of the communications links between different management systems.
4. Synchronization errors — when two separate components attempt to communicate, but fail to establish the necessary communications protocols, even if the link is functioning.

Based on the previously discussed assumptions, and experience of the personnel that created the NRCM, the model assumes a 2 percent fallout factor. This amount is based on figures presented in OSS demonstrations in other states.

The labor rates used in the NRCM represent the fully assigned rate that includes wages and benefits for first-line supervision through third level management. In addition, the labor rate accounts for non-productive time, overtime pay, clerical support, and other miscellaneous expenses. The NRCM includes 14 job classifications to account for different levels of labor costs associated with different activities. The model uses union contract labor rates where possible.

Work time estimates are associated with various activities. The work time estimate is the average amount of time required to perform a particular work function. These work time estimates were obtained from a panel of SMEs. The model assumes that the person performing the job is fully trained, tools and other materials required for the job are readily available, and work operations are based on forward looking technologies and management processes.

Probabilities represent the percentage of time a particular work function/activity is performed when processing a particular service offering. Probability factors are used in the determination of activity costs:

Activity Cost = Probability (%) * Time (Min) * Labor Rate ($) / 60 Minutes

Where an activity is assumed to be performed by the CLEC, it is not part of the ILEC activity cost calculation.

The NRCM assumes dedicated facilities exist in plant, both inside and outside. Long standing practices have demonstrated that it is more cost efficient to commit facilities ahead of time to facilitate rapid service activation. When customers move, it is assumed that in time another customer will move to the same location. This assumption means that service is not disconnected, but merely deactivated where no physical work is performed.

The final assumption relates to testing. The NRCM assumes that the ILEC performs testing for resale and UNE purchases. The cost for testing is assumed to be recovered through the recurring rates. The NRCM also assumes that the CLEC will perform all testing once a customer is terminated on the CLEC switch.

Inputs

The NRCM has a series of input screens that allow the model to be tailored to suit different needs. The inputs are summarized below:

1. NRC Element Type — The model includes 49 elements for which NRCs may be determined. Other elements will be added with future updates to the model.
2. State Selection — Since labor rates vary according to geographic region, labor rates were determined for each state and ILEC.
3. Manual Labor rates — After selection of a state, labor rates may be customized.
4. Copper Loop Percentage — This represents the percent of lines served by straight copper as opposed to by fiber with a default of 40 percent. This is included since there is additional labor required for copper plant.
5. Central Office Staffed Ratio — This represents the number of lines in a state that are served out of a CO that have technicians on site. Additional travel time is required where a CO is not staffed, which increases costs. The model uses 80 percent as default.
6. Average Trip Time — This variable accounts for technician travel time for multiple work activities. The default value is 20 minutes.
7. Average Setup Time — This variable accounts for preparing for work once at the work site. For example, set up may require arranging cones around a Feeder Distribution Interface. The default is 10 minutes.
8. Number of Work Activities Per Order (CO) — Average number of work activities is set at four, meaning a technician will complete four activities.

9. Percentage Dedicated Facilities — This variable represents the percentage of dedicated facilities for POTS type service. The model uses 100 percent as a default. Costs for these type of facilities are assumed to be recovered via recurring rate elements.
10. Variable Overhead — This variable represents the overhead or common cost not captured in the model. The default value is 10.4 percent, which is consistent with the Hatfield Model default.

Following the NRCM summary are all the NRCs the model currently generates for SWBT. The costs are based on default inputs. Also included is an example of the steps the model uses to calculate the costs for switching feature changes.

Summary

Staff has conducted a review of the NRCM 2.2 and found it to be based on scorched earth[4] assumptions, which Staff does not totally agree with. However, the assumptions regarding flowthru should be seriously considered. As Staff discusses in the Local Switching Features section, Staff agrees flowthru will be very high but not as high as AT&T estimates it to be.

Work times from SWBT are based on SME input with no time and motion studies for support. Work time included in the NRCM are based on other SME input with no time and motion studies for support. Staff views these times as a range for which the activities can be completed. As time progresses, technology improves, and technicians become more familiar with the technology, the work times should approach AT&T's estimates. However, the extent to which labor times will approach the times that AT&T suggests is not known.

Finally, the NRCM is much like the Hatfield Model in that the NRCM is a work in progress. The model does not yet include all NRCs for all UNEs. Once the model includes other UNEs, it will be a better representation of forward looking NRCs. In its current state, the model offers more insight into the labor required to complete various activities to provide resold service and UNEs. Due to the NRCM being a work in progress, Staff cannot advocate its use at this time. With future updates to the model and as the model creators obtain better information, the model may be worth serious consideration for determining NRCs associated with ordering service from an ILEC.

4

Scorched earth - beginning from scratch with no current facilities in place. AT&T assumes that forward looking costs should be based on the best of facilities currently available. Scorched earth assumptions do not account for the current network.

NRC #	Missouri - SWBT - NRC Elements	Total Cost		Total Cost	
9	Feature Changes	$ 0.21	<-- with overhead	$ 0.19	<-- without overhead

9

SERVICE ORDER PROCESS / NON-RECURRING TYPE MATRIX

1	2	3	4	5	6	7	8	9
					A	B	C	D = (A x B x C) / 60
ID No.	Process Flow / Activity	Step	System or Action	Work Center	Probability (%)	Time (minutes)	Rate ($/hour)	Cost w/out Overhead ($)
1	*Pre Order Steps*							
2	CLEC customer contact	Pre-Order	CLEC Customer Service Represent		NA	-		
4	ILEC gateway requests address	Pre-Order	Premis, ALOC, BOSS, CRIS		100.0%	-	R	$ -
5	ILEC gateway formats and retur	Pre-Order	WFA/FORCE, ACTIVIEW		100.0%	-	R	$ -
6	*Ordering Steps*							
7	CLEC customer service represen	Order	ACTIVIEW		NA			
8	ILEC gateway receives, validates	Order	ILEC gateway, STAREP, DOE		100.0%	-	R	$ -
10	ILEC SOG retrieves CSR data, f	Order	BOSS, SOP		100.0%	-	R	$ -
11	*Provisioning Processing Steps*							
13	SOP sends request to SOAC	Provisioning	SOP		100.0%	-	R	$ -
14	SOAC analyzes order, generates	Provisioning	SOAC		100.0%	-	R	$ -
20	SOAC receives COE, OSP, IOF,	Provisioning	SOAC		100.0%	-	R	$ -
27	SOAC delivers recent change tra	Provisioning	MARCH (ASAP for ISDN BRI)		100.0%	-	R	$ -
29	MARCH updates LDS	Provisioning	MARCH (ASAP for ISDN BRI)		100.0%	-	R	$ -
198	*Fall Out Steps*							
199	Fall Out: RMAs forwarded to P	Provisioning	CPU Time		2.0%		R	$ -
200	Fall Out: Pull and analyze order:	Provisioning	ILEC manual activity	RCMAC	2.0%	2.50	$ 32.81	$ 0.03
201	Fall Out: Resolve fallout: RCMA	Provisioning	ILEC manual activity	RCMAC	2.0%	15.00	$ 32.81	$ 0.16
217	*Close Order Provisioning Steps*							
218	SOAC updates SOP	Provisioning	SOAC		100.0%	-	R	$ -
219	SOAC updates WFA, NSDB, L	Provisioning	SOAC		100.0%	-	R	$ -
221	SOP completes LSR	Provisioning	SOP		100.0%	-	R	$ -
222	ILEC gateway notifies CLEC of	Provisioning	ILEC gateway		NA			
224	*End of Process Steps*							$ 0.19

	Missouri - SWBT - NRC Elements	Total Cost
1	POTS / ISDN BRI Migration (TSR)	0.21
2	POTS / ISDN BRI Install (TSR)	0.21
3	POTS / ISDN BRI Migration (UNE Platform)	0.21
4	POTS / ISDN BRI Install (UNE Platform)	0.21
5	POTS / ISDN BRI Disconnect (TSR / UNE Platform)	0.21
6	POTS / ISDN BRI Migration (UNE Loop)	1.78
7	POTS / ISDN BRI Install (UNE Loop)	1.72
8	POTS / ISDN BRI Disconnect (UNE Loop)	1.54
9	Feature Changes	0.21
10	4 Wire Migration (UNE Loop)	18.75
11	4 Wire Install (UNE Loop)	11.69
12	4 Wire Disconnect (UNE Loop)	9.02
13	2 Wire Migration at the FDI	20.21
14	2 Wire Disconnect at the FDI	19.45
15	4 Wire Migration at the FDI	55.01
16	4 Wire Disconnect at the FDI	33.63
17	2 Wire Migration at 6 line NID	37.53
18	Channelized DS1 Virtual Feeder to RT Install	17.16
19	Channelized DS1 Virtual Feeder to RT Disconnect	13.35
20	DS1 Interoffice Transport Install	7.25
21	DS1 Interoffice Transport Disconnect	0.39
22	DS3 Interoffice Transport Install	7.25
23	DS3 Interoffice Transport Disconnect	0.39
24	2 Wire Loop, different CO Migration	19.38
25	2 Wire Loop, different CO Install	7.22
26	2 Wire Loop, different CO Disconnect	6.51
27	4 Wire Loop, different CO Migration	19.69
28	4 Wire Loop, different CO Install	7.61
29	4 Wire Loop, different CO Disconnect	7.30
30	DS1 Loop to Customer Premise Migration	31.49
31	DS1 Loop to Customer Premise Install	22.86
32	DS1 Loop to Customer Premise Disconnect	15.91
33	DS3 Loop to Customer Premise Migration	29.80
34	DS3 Loop to Customer Premise Install	17.25
35	DS3 Loop to Customer Premise Disconnect	9.65
36	Line Port (DS0, Analog, ISLU) Install	1.66
37	Line Port (DS0, Analog, ISLU) Disconnect	1.54
38	Channelized DS1 line port (TR-303-IDT) Install	17.16
39	Channelized DS1 line port (TR-303-IDT) Disconnect	12.61
40	Fiber Cross Connects Install (LGX)	8.38
41	Fiber Disconnect (LGX)	9.17
42	SS7 Links (DS0) Install	22.36
43	SS7 Links (DS0) Disconnect	6.98
44	SS7 Links (DS1) Install	20.41
45	SS7 Links (DS1) Disconnect	5.61
46	SS7 STP global title translations 'A Link' only Install	26.95
47	SS7 STP global title translations 'A Link' only Disconnect	26.95
48	SS7 STP message transfer part 'A Link' only (port) Install	19.10
49	SS7 STP message transfer part 'A Link' only (port) Disconnect	18.32