10/19/95

Attachment B

FPSC DOCKET 950737-TP

FPSC STAFF'S 1ST REQUEST FOR DOCUMENTS, ITEM 1

PUBLIC VERSION

2 REDACTED COPIES

NUMBER PORTABILITY

USING

REMOTE CALL FORWARDING

BUSINESS

Cost Study #950037

October 1995

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1

INTRODUCTION & OVERVIEW

Purpose

This cost study identifies the incremental costs of Temporary Number Portability Service.

Service Description

Upon request from an Alternative Local Exchange Carrier (ALEC) which has become the new local service provider to a previous BellSouth customer, BellSouth will provision an arrangement which allows retention of the existing telephone number. This capability will "temporarily" be provided through the Remote Call Forwarding (RCF) feature. With RCF, all calls to the existing directory number are automatically forwarded to the ALEC's switch.

As an option, additional paths may be provisioned which allow forwarding of simultaneously received calls when the directory number is part of a multi-line hunt group.

The following resources are utilized in the provisioning of this service: switching investments, Right-To-Use (RTU) fees, installation labor, service center labor, and interoffice trunking.

Description of Cost Development

Development of Switching Investment
The long-run incremental investments (vendor EF&I) required to support RCF were developed using Bellcore's SCIS/IN proprietary cost model. The output of the model reflects vendor design criteria, BellSouth engineering rules, and customer usage characteristics.

The vendor-specific outputs from SCIS/IN were melded based on network access line distribution.

Development of Monthly Costs
The vendor EF&I investment, developed in SCIS/IN, was augmented to account for BellSouth labor, common equipment, power, inflation, and sales tax. Directly assigned annual cost factors were then applied to this adjusted investment to determine both the capital and operating expenses associated with the investment. Capital costs are those related to depreciation, income tax, and cost of money (return). The operating costs are for administration, maintenance, ad valorem taxes and gross receipts taxes. (The cost calculations were accomplished through the aid of an internally developed program, ACE.)

2

Development of Monthly Costs (continued)

The interoffice trunking costs were developed to reflect the cost associated with the transportation of the second leg of the call from the BellSouth switch to the ALEC switch. Fundamental costs have been developed which identify the resources required for call set-up and minute of use. Subscriber Line Usage Studies (SLUS) have been conducted which identify the average number of calls made during the month and the average duration of the calls. The fundamental costs are multiplied by the usage characteristics to determine the monthly trunking costs.

Development of Nonrecurring Costs

The labor costs were developed based on the following equation:

$$Cost = (Labor\ Rate)*(Work\ Time)*(Inflation\ Factor)*(Gross\ Receipts\ Tax)$$

Labor Rate - Directly assigned, state-specific
Work Time - Subject Matter Expert estimate
Inflation Factor - Factor based on anticipated inflation trends and inward movement.
Gross Receipts Tax - State-specific

Service disconnect costs were developed as described above, with the following exception, the inclusion of a disconnect factor. This factor inflates the labor cost to the period of future disconnect, discounts these costs to the present. (The location life used in this study was 36 months.)

Development of RTU Fees

In the DMS switch, feature package NTX021AA is required to provide RCF, the only feature in the package. This package is sold on a per office basis making it a non-volume sensitive cost.

In the 5ESS, Remote Call Forwarding is part of the Universal BRCS package and is sold on a per line basis. Thus, any customer requesting number portability will need have this feature package active on their line.

In order to determine a "per line" RTU fee for this service, the DMS per office RTU fee was converted to a per line cost. This cost recovery, as outlined in Workpaper 40, was accomplished by dividing the present worth of the cost by the present worth of the demand.

Study Assumptions

1) Forward-looking, long-run incremental costs were developed. These costs include both the volume sensitive and non-volume sensitive costs.

2) A Cost of Money of 13.2% was used in the present worth calculations.

3) The location life is 36 months.

4) Studies used as input: Service Order Study, Trunking Study, and SLUS.

5) Cost models: SCIS/IN and ACE.

COST RESULTS - SUMMARY

NUMBER PORTABILITY
USING REMOTE CALL FORWARDING

FLORIDA

FEATURE	SUMMARY OF COST - BUSINESS [1,2]	
	MONTHLY	*NONRECURRING*
SPNP - Remote per Number Ported	$ 1.11	$ 24.84
Additional Capacity for Simultaneous Call Forwarding per Additional Path	$ .28	$ .00

[1] Reference Workpaper 10 for details.

[2] This cost study is based on the forward-looking technology and includes no analog (1AESS) central office effects.

COST DEVELOPMENT

Number Portability
Summary of Results
Business

Workpaper: 10
State: Florida
Date: 10/06/95
Page: 1 of 1

LN	Description	USOC	Source	Amount
1	**Monthly Cost Summary**			
2	SPNP – Remote per Number Ported		ACE Report 20, Page 1	$0.95
3	Trunking		WP40, LN33	$0.16
4				
5	**Total**	TNPRL	LN2+LN3	**$1.11**
6				
7				
8	Additional Capacity for Simultaneous Call			
9	Forwarding per Additional Path		ACE Report 20, Page 2	$0.12
10	Trunking		WP40, LN33	$0.16
11				
12	**Total**	N/A	LN9+LN10	**$0.28**
13				
14				
15	**Nonrecurring Cost Summary**			
16	Service Order per Service Order		WP30	$21.17
17				
18	Right to Use Fees – per Number Ported		WP30	$3.67
19				
20	**Total**	TNPRL	LN16+LN18	**$24.84**
21				
22				
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Study Number: 950037

Study Name: NUMBER PORTABILITY (RCF)

Tariff Element: NUMBER PORTABILITY

      SPNP-REMOTE PER NUMBER PORTED

State	Tariff Ref	USOC	Modifier	Technology	Vol. Sens.	Economic Type	Investment Basis
FL	950037	TNPRL	BUSINESS		VS	DIR	NUM PORT

	PRIMARY INVESTMENT DATA				INVESTMENT LOADING FACTORS				SUPPORT STRUCTURE LOADINGS			BOOKED INVESTMENTS	
Field Code	Description	Capital Investment	Operating Investment	Date	FC Factor	InPlant Factor	InPlant Type	CE&P Factor	Loading Factor	Loading Type	Field Code	Capital Investment	Operating Investment
377C	NUMBER PORTABILITY	23.83	44.89	9/29/95	1.0120	1.1236	T	1.0962				29.70	55.95
377C	~ Support Loading ----->			9/29/95					.0404	switch_bldg	10C	1.20	2.26
377C	~ Support Loading ----->			9/29/95					.0030	switch_land	20C	.09	.17

                        ADJUSTED TOTAL INVESTMENT: 30.99   58.38

Note: Capital and Operating Investment reference source is located on Workpaper 50, column C.

NOTES: 1. The BOOKED INVESTMENT for PRIMARY INVESTMENTS is calculated by multiplying the PRIMARY INVESTMENT by the applicable INVESTMENT LOADING FACTORS.

    2. The BOOKED INVESTMENT for SUPPORT STRUCTURE LOADINGS is calculated by multiplying the applicable Loading Factor by the sum of

      INVESTMENTS for each primary Field Code.

    3. InPlant Factor types: T = Telco, C = Material Composite, H = Material Hardwire, P = Material Plugin

    4. The FC factor is the levelized inflation factor for investments.

Study Number: 950037

Study Name: NUMBER PORTABILITY (RCF)

Tariff Element:

State	Tariff Ref	USOC	Modifier	Technology	Vol. Sens.	Economic Type	Investment Basis
FL	950037	ADD'L	BUSINESSS		VS	DIR	ADDL PATH

		PRIMARY INVESTMENT DATA			INVESTMENT LOADING FACTORS				SUPPORT STRUCTURE LOADINGS			BOOKED INVESTMENTS	
Field Code	Description	Capital Investment	Operating Investment	Date	FC Factor	InPlant Factor	InPlant Type	CE&P Factor	Loading Factor	Loading Type	Field Code	Capital Investment	Operating Investment
377C	NUMBER PORTABILITY	3.28	5.48	9/29/95	1.0120	1.1236	T	1.0962				4.09	6.83
377C	– Support Loading ----->			9/29/95					.0404	switch_bldg	10C	.17	.28
377C	– Support Loading ----->			9/29/95					.0030	switch_land	20C	.01	.02
										ADJUSTED TOTAL INVESTMENT:		4.27	7.13

Note: Capital and Operating Investment reference source is located on Workpaper 50, column C.

NOTES: 1. The BOOKED INVESTMENT for PRIMARY INVESTMENTS is calculated by multiplying the PRIMARY INVESTMENT by the applicable INVESTMENT LOADING FACTORS.

2. The BOOKED INVESTMENT for SUPPORT STRUCTURE LOADINGS is calculated by multiplying the applicable Loading Factor by the sum of INVESTMENTS for each primary Field Code.

3. InPlant Factor types: T = Telco, C = Material Composite, H = Material Hardwire, P = Material Plugin

4. The FC factor is the levelized inflation factor for investments.

NOTICE: NOT FOR USE OR DISCLOSURE OUTSIDE BELLSOUTH WITHOUT WRITTEN AGREEMENT.

USOC ANNUAL COST DETAILS

ACE REPORT 20

Study Number: 950037

Page 1

Study Name: NUMBER PORTABILITY (RCF)

10/10/95

Tariff Element: NUMBER PORTABILITY

                SPNP-REMOTE PER NUMBER PORTED

State	Tariff Ref	USOC	Modifier	Technology	Volume Sensitivity	Economic Type	Investment Basis
FL	950037	TNPRL	BUSINESS		VS	DIR	NUM PORT

INVESTMENT DATA — ANNUAL COST FACTORS — ANNUAL EXPENSES

Field Code	St	Capital Investment	Operating Investment	Date	Depr. Factor	C.O.M. Factor	Inc Tax Factor	Mtce. Factor	Admin Factor	AdVal Factor	GRT Factor	Depr. Expense	C.O.M. Expense	Inc Tax Expense	Mtce. Expense	Admin Expense	Adval Expense	GRT Expense
10C	FL	1.20	2.26		.0302	.0986	.0452	.0069	0.0000	.0113	.0152	.04	.12	.05	.02	0.00	.03	.00
20C	FL	.09	.17		0.0000	.1118	.0514	0.0000	0.0000	.0113	.0152	0.00	.01	.00	0.00	0.00	.00	.00
377C	FL	29.70	55.95		.1134	.0651	.0302	.0282	.0461	.0113	.0152	3.37	1.93	.90	1.58	2.58	.63	.17

SUMMARY:	ADJUSTED TOTAL INVESTMENT		30.99
	ANNUAL CAPITAL COSTS:	Depreciation Expense	3.40
		Cost of Money	2.06
		Income Tax Expense	.96
	ANNUAL OPERATING EXPENSES:	Maintenance Expense	1.59
		Administration Expense	2.58
		Ad Valorem and Other Taxes	.66
	Gross Receipts Tax		.17
	TOTAL ANNUAL COSTS		11.43

TOTAL MONTHLY COST: .95

These annual costs include no impact on scheduled analog office replacements.

NOTES: 1. Capital and Operating Investments are the BOOKED INVESTMENTS from ACE Report 10.
        2. Depreciation, Cost of Money, and Income Tax Expenses = Capital Investment multiplied by the corresponding Annual Cost Factor.
        3. Maintenance, Administrative, and Ad Valorem Expenses = Operating Investment multiplied by the corresponding Annual Cost Factor.
        4. Gross Receipts Tax = Gross Receipts Tax Factor multiplied by the sum of Capital Costs and Operating Expenses.

USOC ANNUAL COST DETAILS

ACE REPORT 20

Study Number: 950037

Page 2

Study Name: NUMBER PORTABILITY (RCF)

10/10/95

Tariff Element:

State	Tariff Ref	USOC	Modifier	Technology	Volume Sensitivity	Economic Type	Investment Basis
FL	950037	ADD'L	BUSINESSS		VS	DIR	ADDL PATH

	INVESTMENT DATA			ANNUAL COST FACTORS							ANNUAL EXPENSES						
Field	Capital	Operating		Depr.	C.O.M.	Inc Tax	Mtce.	Admin	AdVal	GRT	Depr.	C.O.M.	Inc Tax	Mtce.	Admin	Adval	GRT
Code	St	Investment	Investment	Date	Factor	Factor	Factor	Factor	Factor	Factor	Factor	Expense	Expense	Expense	Expense	Expense	Expense	Expense
10C	FL	.17	.28		.0302	.0986	.0452	.0069	0.0000	.0113	.0152	.00	.02	.01	.00	0.00	.00	.00
20C	FL	.01	.02		0.0000	.1118	.0514	0.0000	0.0000	.0113	.0152	0.00	.00	.00	0.00	0.00	.00	.00
377C	FL	4.09	6.83		.1134	.0651	.0302	.0282	.0461	.0113	.0152	.46	.27	.12	.19	.31	.08	.02

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SUMMARY:      ADJUSTED TOTAL INVESTMENT                      4.27

              ANNUAL CAPITAL COSTS:   Depreciation Expense    .47

                                      Cost of Money           .28

                                      Income Tax Expense      .13

              ANNUAL OPERATING EXPENSES: Maintenance Expense  .19

                                      Administration Expense  .31

                                      Ad Valorem and Other Taxes  .08

              Gross Receipts Tax                              .02

              TOTAL ANNUAL COSTS                             1.50    TOTAL MONTHLY COST:      .12
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These annual costs include no impact on scheduled analog office replacements.

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NOTES:   1. Capital and Operating Investments are the BOOKED INVESTMENTS from ACE Report 10.

         2. Depreciation, Cost of Money, and Income Tax Expenses = Capital Investment multiplied by the corresponding Annual Cost Factor.

         3. Maintenance, Administrative, and Ad Valorem Expenses = Operating Investment multiplied by the corresponding Annual Cost Factor.

         4. Gross Receipts Tax = Gross Receipts Tax Factor multiplied by the sum of Capital Costs and Operating Expenses.
```

Number Portability (RCF)
Nonrecurring Cost Development
Business

Workpaper: 30
State: Florida
Date: 10/03/95
Page: 1 of 1

Network Provisioning

Central Office Switch Translations per Service Order (JFC 432X)	(A) Labor Effort (Hours)	(B) Labor Rate ($/HR)	(C) Inflation Levelizer	(D) GRT Factor	(E) Disconnect Discount	(A)*(B)*(C)*(D)*(E) Nonrecurring Cost
Initial Installation	0.04	$37.38	1.079	1.0152		$1.64
Disconnect	0.03	$37.38	1.079	1.0152	0.917	$1.13
Total						$2.76

Service Order Processing Expense $18.41   (Fundamental Study – Secondary Service Order)

Total Service Order Expense $21.17

RTU Fees

A B C D

DMS100 Discounted Cost per Office:
(NTX021AA)

	Year 1	Year 2	Year 3	Sum
Offices Requiring RTU	0	0	1	
RTU Expense	$0	$0		
PW Factors (13.2%)	0.9399	0.8303	0.7335	
PW of Expense	$0	$0		
Inward Movement	6,068	9,727	22,550	
PW of Inward	5,703	8,076	16,540	30,319

DMS100 RTU per Line

5ESS RTU per Line

Melded RTU per Line $3.62   (Meld percentages – 69% 5ESS, 31% DMS100)

RTU w/GRT Applied $3.67

Number Portability (RCF)
Trunking Costs
Business

Workpaper: 40
State: Florida
Date: 10/03/95
Page: 1 of 1

A B

LN	Description	Source	Amount
1	Calculation of Monthly Usage Costs (Trunking)		
2	1FB		
3	**Calling Patterns (per Month)**	SLUS Study	
4	Calls		316.8
5	Duration (Minutes)		606
6			
7	**Cost Data**	Fundamental Study	
8	Set–up per Call		
9	Duration per Minute		
10			
11	**Monthly Trunking Costs**		
12	1FB	LN4*LN8+LN5*LN9	$0.14
13			
14			
15	PBX (Flat Rate), MegaLink/LightGate NAR		
16	**Calling Patterns (per Month)**	SLUS Study	
17	Calls		624.4
18	Duration (Minutes)		1439.2
19			
20	**Cost Data**	Fundamental Study	
21	Set–up per Call		
22	Duration per Minute		
23			
24	**Monthly Trunking Costs**		
25	PBX, MegaLink/LightGate NAR	LN17*LN21+LN18*LN22	$0.32
26			
27			
28	**Meld Percentages**	Access Line Report (7/95)	
29	1FB		87.2%
30	PBX, MegaLink/LightGate NAR		12.8%
31			
32			
33	**Melded Business Monthly Trunking Costs**	LN12*LN29+LN25*LN30	$0.16
34			
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13

Number Portability (RCF)
Investments
Business

Workpaper: 50
State: Florida
Date: 10/03/95
Page: 1 of 1

Description	USOC	(A) 5ESS	(B) DMS	(C) = .69*(A) + .31*(B) Melded
Marginal Investments				
SPNP – Remote per Number Ported	TNPRL			$23.83
Additional Capacity for Simultaneous Call Forwarding per Addtional Path	N/A			$3.28
Capacity Investments				
SPNP – Remote per Number Ported	TNPRL			$44.89
Additional Capacity for Simultaneous Call Forwarding per Addtional Path	N/A			$5.48

SCIS/IN Features 1.9
Feature: 33. Remote Call Forwarding

Report: Marginal Marginal; Marginal Investments

Calculation: Marg-Marginal E,F&I
State: BS   Input File: (untitled)   Date: 09/29/95 14:50

Technology: 5ESS   (REGIONAL:06-19-95 (5E9.1, 06-94))   *D*   *E*

A   *B*   *C*

Investment Category	Variable	Direct Fixed per Line	Shared Fixed per Line	Direct Fixed per Office	Shared Fixed per Office
10 A. Getting Starte				No Inv.	No Inv.
B. CCS	No Inv.			No Inv.	No Inv.
12 C. Call				No Inv.	No Inv.
13 D. Minimum per Li	————			No Inv.	No Inv.
E. Hardware	No Inv.			No Inv.	No Inv.
F. Memory	No Inv.			No Inv.	No Inv.
G. SSP Octet	No Inv.			No Inv.	No Inv.
17 H. Total End Offi		NA	NA	No Inv.	No Inv.

18 TNPBL   =   ————

19 Add'l   = $A + C$ =

20 TOTAL Investment: per Line   per Office   No Inv.

15

SCIS/IN Features 1.9
Feature: 33. Remote Call Forwarding

Workpaper: 60
State: Florida
Date: 10/02/95
Page: 2 of 4
Type: Business

Report: Marginal Marginal; Marginal Investments

Calculation: Marg-Marginal E,F&I
State: BS   Input File: (untitled)   Date: 09/29/95 14:50

Technology: DMS-100 (REGIONAL:06-19-95 (BCS 36, 01-94))

	A	B	C	D	E
Investment Category	Variable	Direct Fixed per Line	Shared Fixed per Line	Direct Fixed per Office	Shared Fixed per Office
10 A. Getting Starte				No Inv.	No Inv.
B. CCS	No Inv.			No Inv.	No Inv.
C. Call	No Inv.			No Inv.	No Inv.
D. Minimum per Li	No Inv.			No Inv.	No Inv.
E. Hardware	No Inv.			No Inv.	No Inv.
15 F. Memory				No Inv.	
G. SSP Octet	No Inv.			No Inv.	No Inv.
17 H. Total End Offi		NA	NA	No Inv.	

18 TNPBL $+$ ——— $= 1$

19 Add'l $=$ ——

20   Average # of RCF lines / office

21 TOTAL Investment: per Line   per Office

16

SCIS/IN Features 1.9
Feature: 33. Remote Call Forwarding

Report: Marginal Capacity; Marginal Investments

Workpaper: 60
State: Florida
Date: 10/02/95
Page: 3 of 4
Type: Business

Calculation: Marg-Capacity E,F&I
State: BS   Input File: (untitled)   Date: 09/29/95 14:50

Technology: 5ESS   (REGIONAL:06-19-95 (5E9.1, 06-94))

	Investment Category	A Variable	B Direct Fixed per Line	C Shared Fixed per Line	D Direct Fixed per Office	E Shared Fixed per Office
10	A. Getting Starte				No Inv.	No Inv.
	B. CCS	No Inv.			No Inv.	No Inv.
12	C. Call				No Inv.	No Inv.
13	D. Minimum per Li				No Inv.	No Inv.
	E. Hardware	No Inv.			No Inv.	No Inv.
	F. Memory	No Inv.			No Inv.	No Inv.
	G. SSP Octet	No Inv.			No Inv.	No Inv.
17	H. Total End Offi		NA	NA	No Inv.	No Inv.

18 TNPBL   = ' ___

19 Add'l   := $A + C$ = ___

20 TOTAL Investment: per Line   ___   per Office   No Inv.

17

SCIS/IN Features 1.9
Feature: 33. Remote Call Forwarding

Report: Marginal Capacity; Marginal Investments

Calculation: Marg-Capacity E,F&I
State: BS   Input File: (untitled)   Date: 09/29/95 14:50

Technology: DMS-100 (REGIONAL:06-19-95 (BCS 36, 01-94))

	Investment Category	A Variable	B Direct Fixed per Line	C Shared Fixed per Line	D Direct Fixed per Office	E Shared Fixed per Office
16	A. Getting Starte				No Inv.	No Inv.
	B. CCS	No Inv.			No Inv.	No Inv.
	C. Call	No Inv.			No Inv.	No Inv.
	D. Minimum per Li	No Inv.			No Inv.	No Inv.
	E. Hardware	No Inv.			No Inv.	No Inv.
15	F. Memory				No Inv.	
	G. SSP Octet	No Inv.			No Inv.	No Inv.
17	H. Total End Offi			NA	NA	No Inv.

18 TNPBL

19 Add'l

20 TOTAL Investment: per Line   per Office

/8